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HISTORY  
OF THE  
GREAT LAKES

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ILLUSTRATED

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IN TWO VOLUMES

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VOLUME I.

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CHICAGO:  
J. H. BEERS & CO.  
1899.

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## PREFACE.

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IN the compilation of the History of the Great Lakes, no fact has been more surprising to the publishers than the almost total absence of data collected for such purpose. This is peculiarly a pioneer publication. The rich field has, for reasons that seem incomprehensible, been ignored by historians of the past.

An abundance of historical data exists; but it has to be gleaned from widely scattered sources: The early voyageurs and missionaries left behind them a vast store of rich and interesting description of the Great Lakes in their pristine glory before the days when the enterprise of a dominant and energetic race took possession, and constructed a commerce of world-wide importance. Colonial writings have verged upon topics that have been fateful to the future interests of the Great Lakes; and especially in the early annals of New York are found the premonitions of the coming glory of the lake region. The local histories of the ports, and of the fertile lands that are laved by the restless waters of the lakes, are flavored with the recital of events that appeal to the interest of the marine reader. Works of general history, of travel and of commerce gleam here and there with marine incident and fancy. Through the musty files of newspapers published at the various lake ports lie the recorded events of the past—many of them beyond the present memory of man. An awakening interest in the subject in recent years has called forth the publication of a multitude of magazine articles touching upon the greatness and the picturesque features of the inland marine of this country. Among the voluminous public documents are enshrined many valuable reports and several historical sketches bearing upon this important theme. But nowhere, strange as it may seem for the literary activity of the country, is found any extensive publication containing in collected form the lake history which belongs to past or present generations.

All the above mentioned fragmentary sources of information have been consulted with careful and painstaking fidelity; and in recent years the task has been facilitated by the excellent lake marine publications—the *Marine Record* and the *Marine Review*—to which acknowledgment is herewith made for the material assistance rendered.

Not least in importance in the compilation of data have been the exhaustive interviews with prominent marine men, at every prominent port upon the Great Lakes, for both historical and biographical material. The Genealogical and Biographical department, which comprises the second volume of this work, will grow in value as the years glide by. Within the past ten years great interest has been awakened

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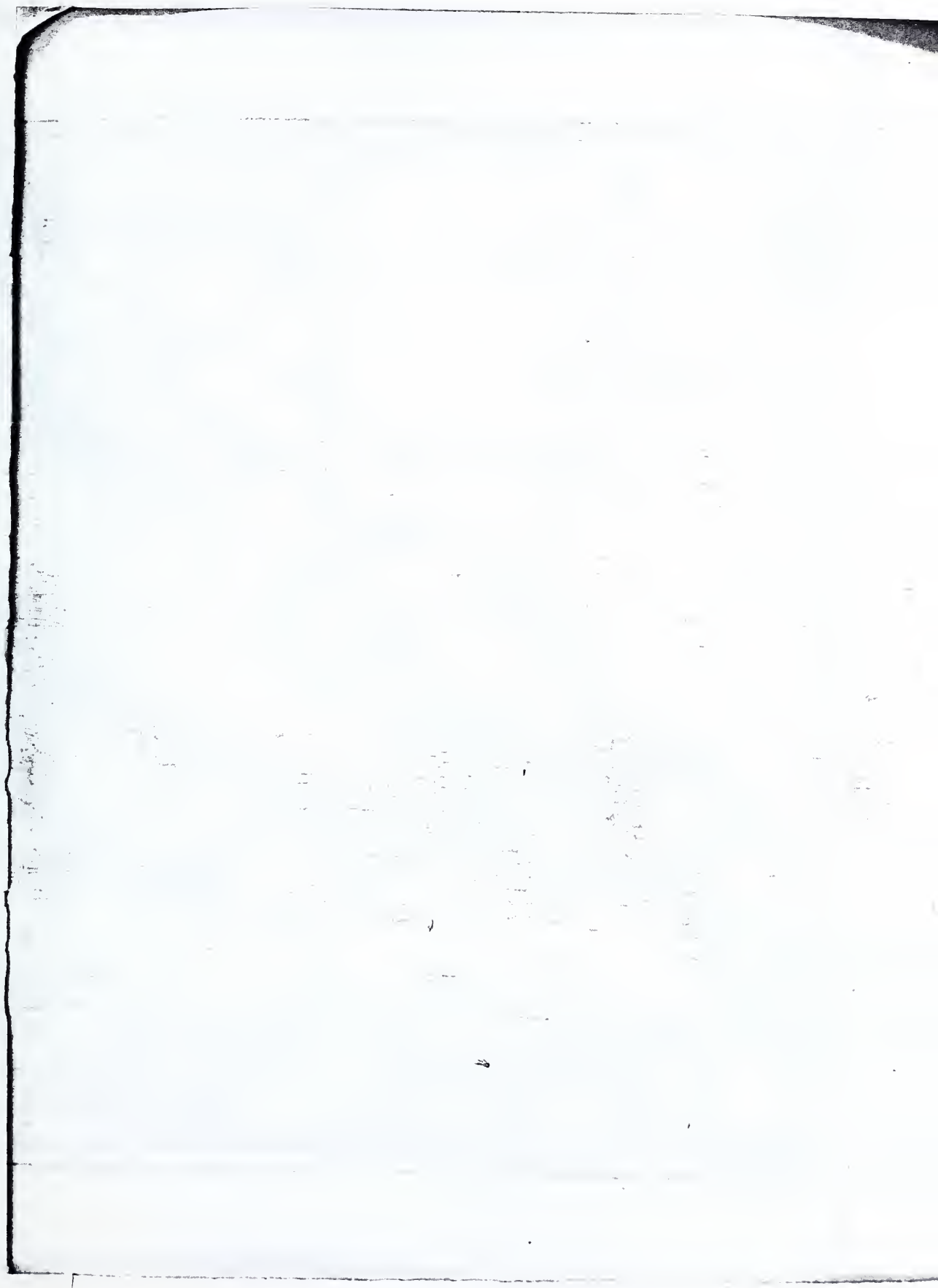
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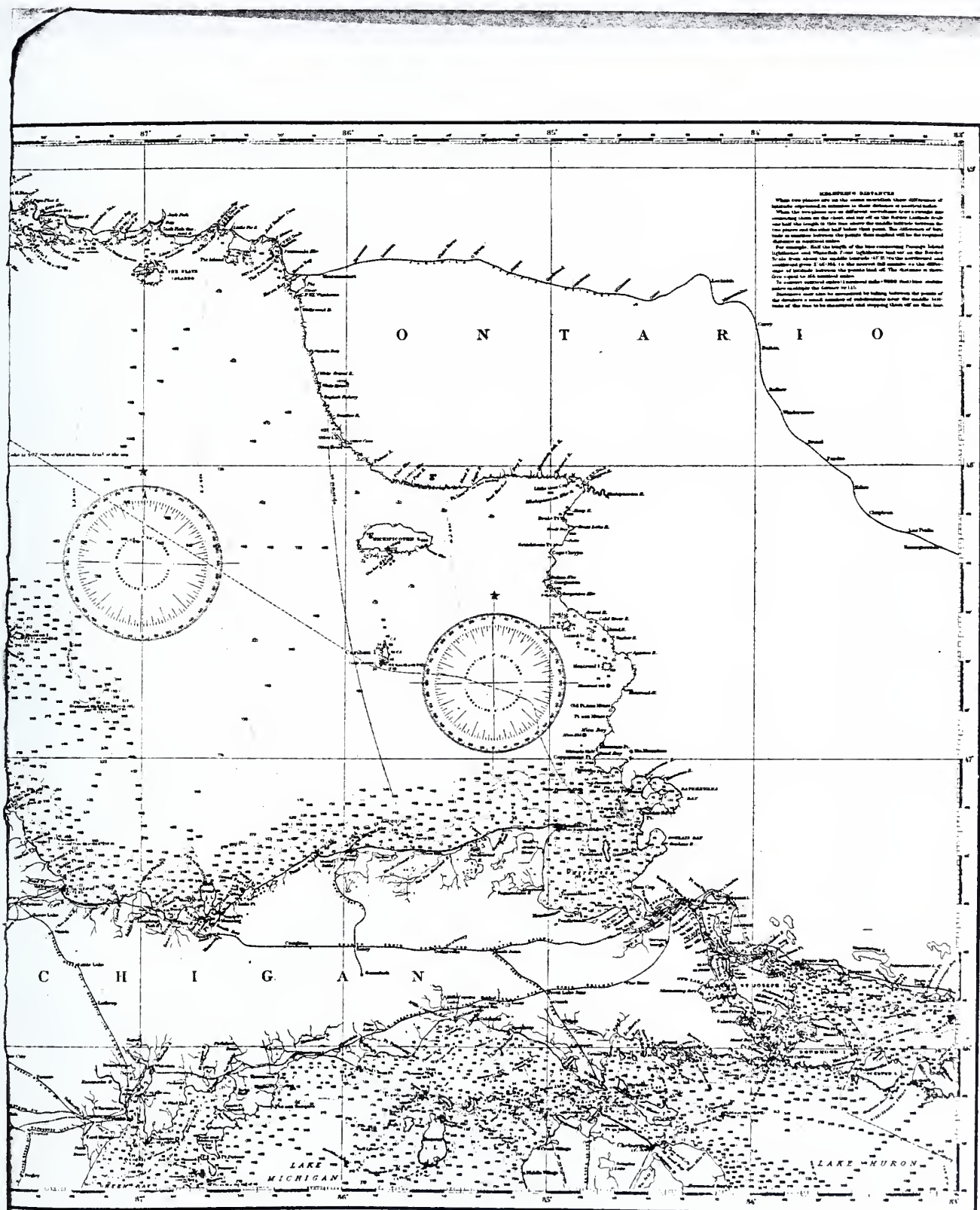
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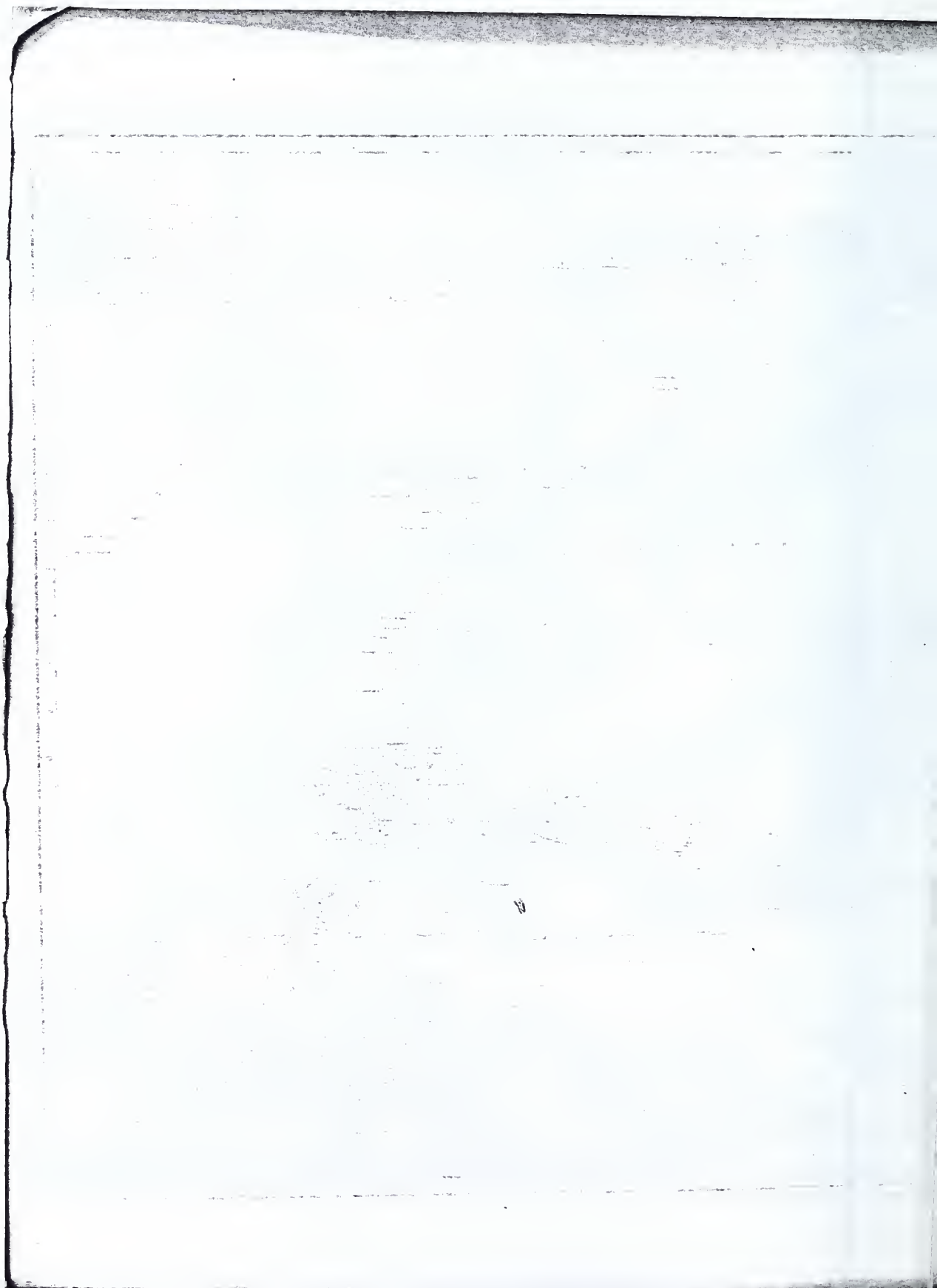


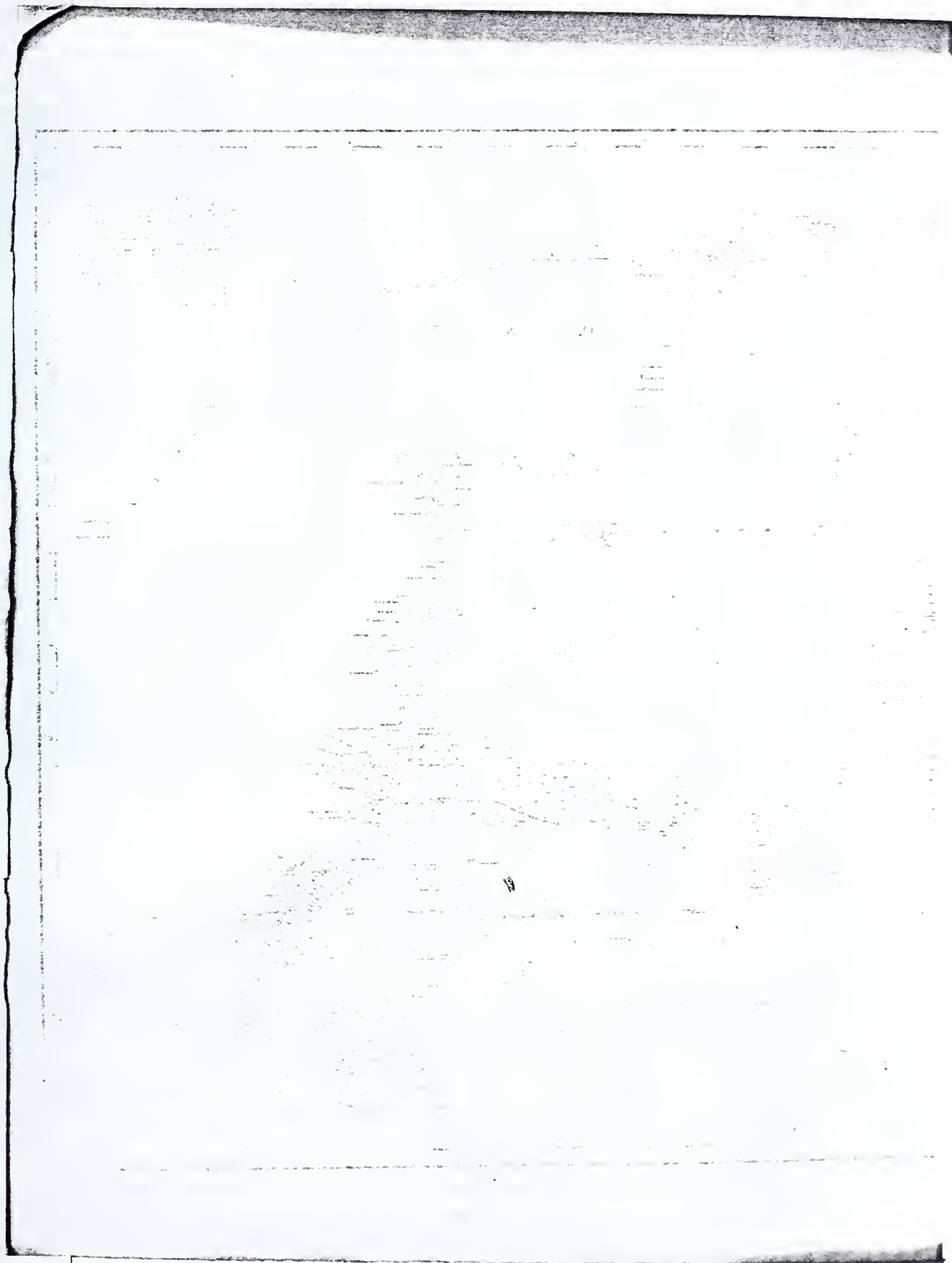




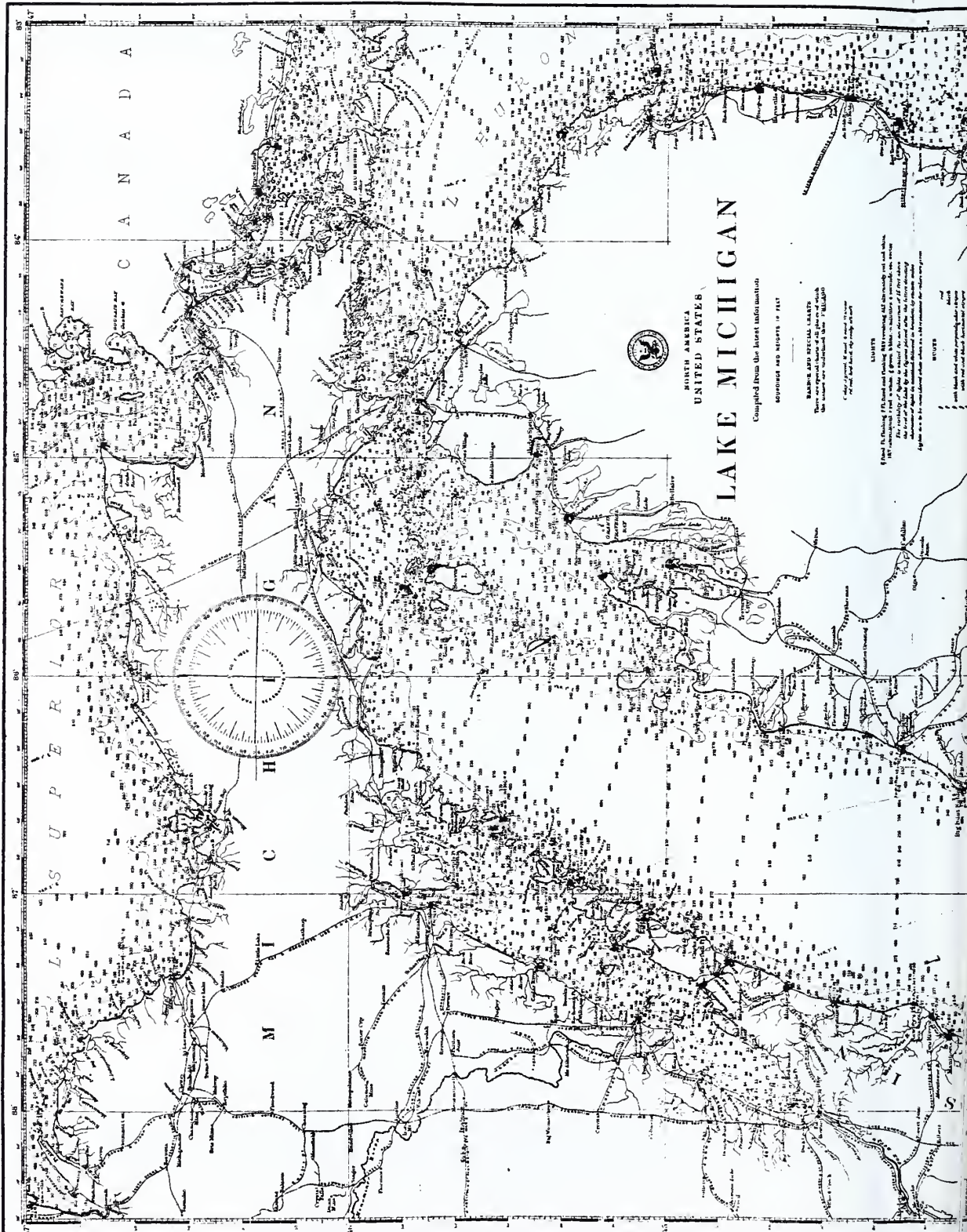












NORTH AMERICA  
UNITED STATES  
**LAKE MICHIGAN**

Compiled from the latest information

BOUNDARIES AND HEIGHTS IN FEET

RAILROADS AND STEAMSHIP LINES

There are several hundred miles of railroad lines shown on this map.

Steamship lines are shown by dotted lines.

For a full description of the symbols used on this map, see the key on the opposite page.

For a full description of the symbols used on this map, see the key on the opposite page.

For a full description of the symbols used on this map, see the key on the opposite page.

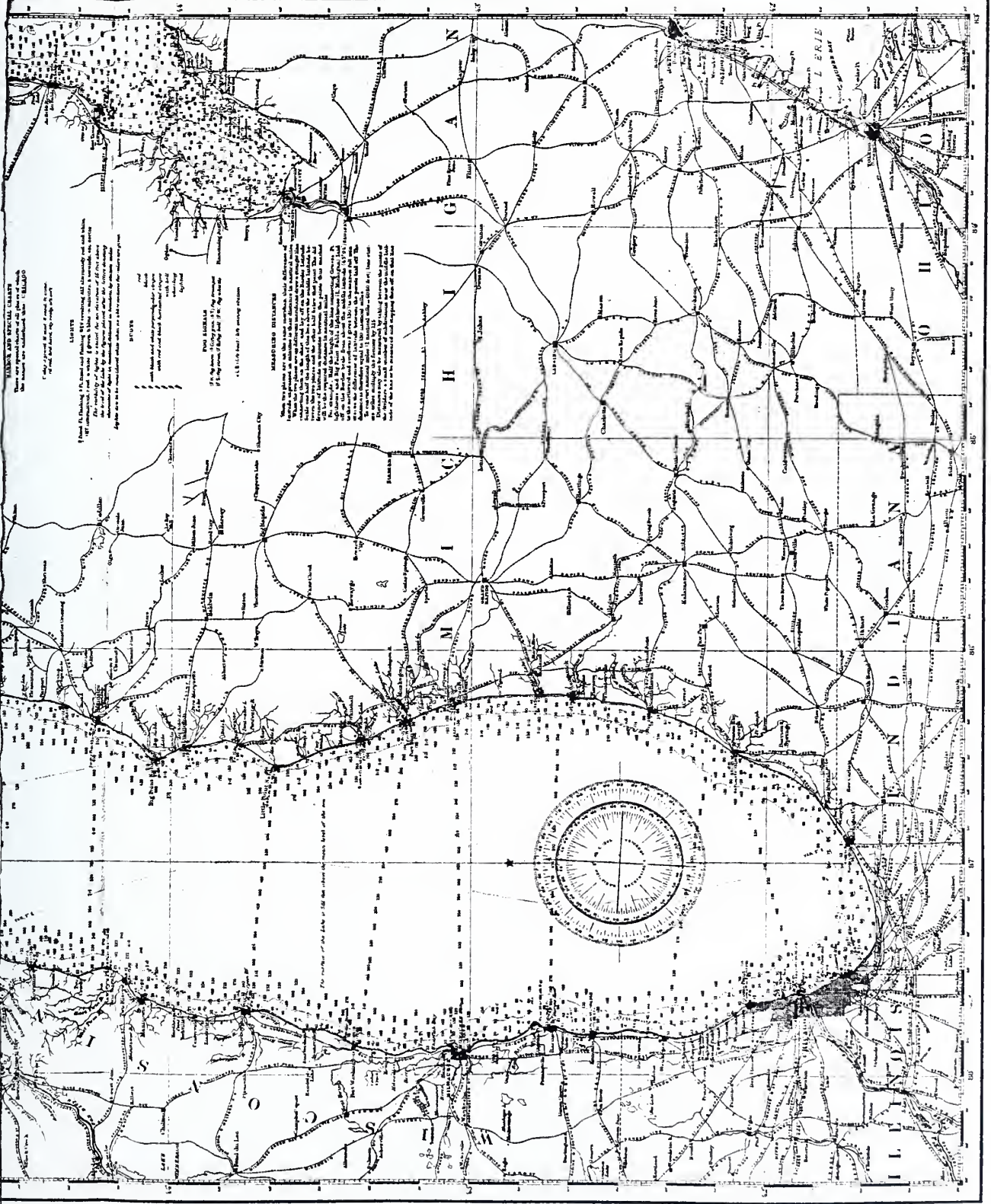
For a full description of the symbols used on this map, see the key on the opposite page.

For a full description of the symbols used on this map, see the key on the opposite page.



**LEGEND AND SPECIAL CHARACTERS**

Mountains are shown by a series of peaks, the highest being the most prominent. The height of the peaks is given in feet or meters. The contour lines are shown by a series of lines, the interval between them being 100 feet or 30 meters. The rivers are shown by a series of lines, the width of the river being indicated by the thickness of the line. The lakes are shown by a series of lines, the shape of the lake being indicated by the shape of the line. The coast line is shown by a series of lines, the shape of the coast being indicated by the shape of the line. The cities are shown by a series of dots, the size of the city being indicated by the size of the dot. The towns are shown by a series of dots, the size of the town being indicated by the size of the dot. The villages are shown by a series of dots, the size of the village being indicated by the size of the dot. The hamlets are shown by a series of dots, the size of the hamlet being indicated by the size of the dot. The roads are shown by a series of lines, the type of road being indicated by the type of line. The railways are shown by a series of lines, the type of railway being indicated by the type of line. The telegraph lines are shown by a series of lines, the type of telegraph line being indicated by the type of line. The power lines are shown by a series of lines, the type of power line being indicated by the type of line. The water works are shown by a series of lines, the type of water work being indicated by the type of line. The bridges are shown by a series of lines, the type of bridge being indicated by the type of line. The tunnels are shown by a series of lines, the type of tunnel being indicated by the type of line. The canals are shown by a series of lines, the type of canal being indicated by the type of line. The ditches are shown by a series of lines, the type of ditch being indicated by the type of line. The fences are shown by a series of lines, the type of fence being indicated by the type of line. The walls are shown by a series of lines, the type of wall being indicated by the type of line. The gates are shown by a series of lines, the type of gate being indicated by the type of line. The locks are shown by a series of lines, the type of lock being indicated by the type of line. The dams are shown by a series of lines, the type of dam being indicated by the type of line. The levees are shown by a series of lines, the type of levee being indicated by the type of line. The dykes are shown by a series of lines, the type of dyke being indicated by the type of line. The embankments are shown by a series of lines, the type of embankment being indicated by the type of line. The cuttings are shown by a series of lines, the type of cutting being indicated by the type of line. The viaducts are shown by a series of lines, the type of viaduct being indicated by the type of line. The trestles are shown by a series of lines, the type of trestle being indicated by the type of line. The piers are shown by a series of lines, the type of pier being indicated by the type of line. The jetties are shown by a series of lines, the type of jetty being indicated by the type of line. The breakwaters are shown by a series of lines, the type of breakwater being indicated by the type of line. The harbors are shown by a series of lines, the type of harbor being indicated by the type of line. The ports are shown by a series of lines, the type of port being indicated by the type of line. The wharves are shown by a series of lines, the type of wharf being indicated by the type of line. The piers are shown by a series of lines, the type of pier being indicated by the type of line. The jetties are shown by a series of lines, the type of jetty being indicated by the type of line. The breakwaters are shown by a series of lines, the type of breakwater being indicated by the type of line. The harbors are shown by a series of lines, the type of harbor being indicated by the type of line. The ports are shown by a series of lines, the type of port being indicated by the type of line. The wharves are shown by a series of lines, the type of wharf being indicated by the type of line.

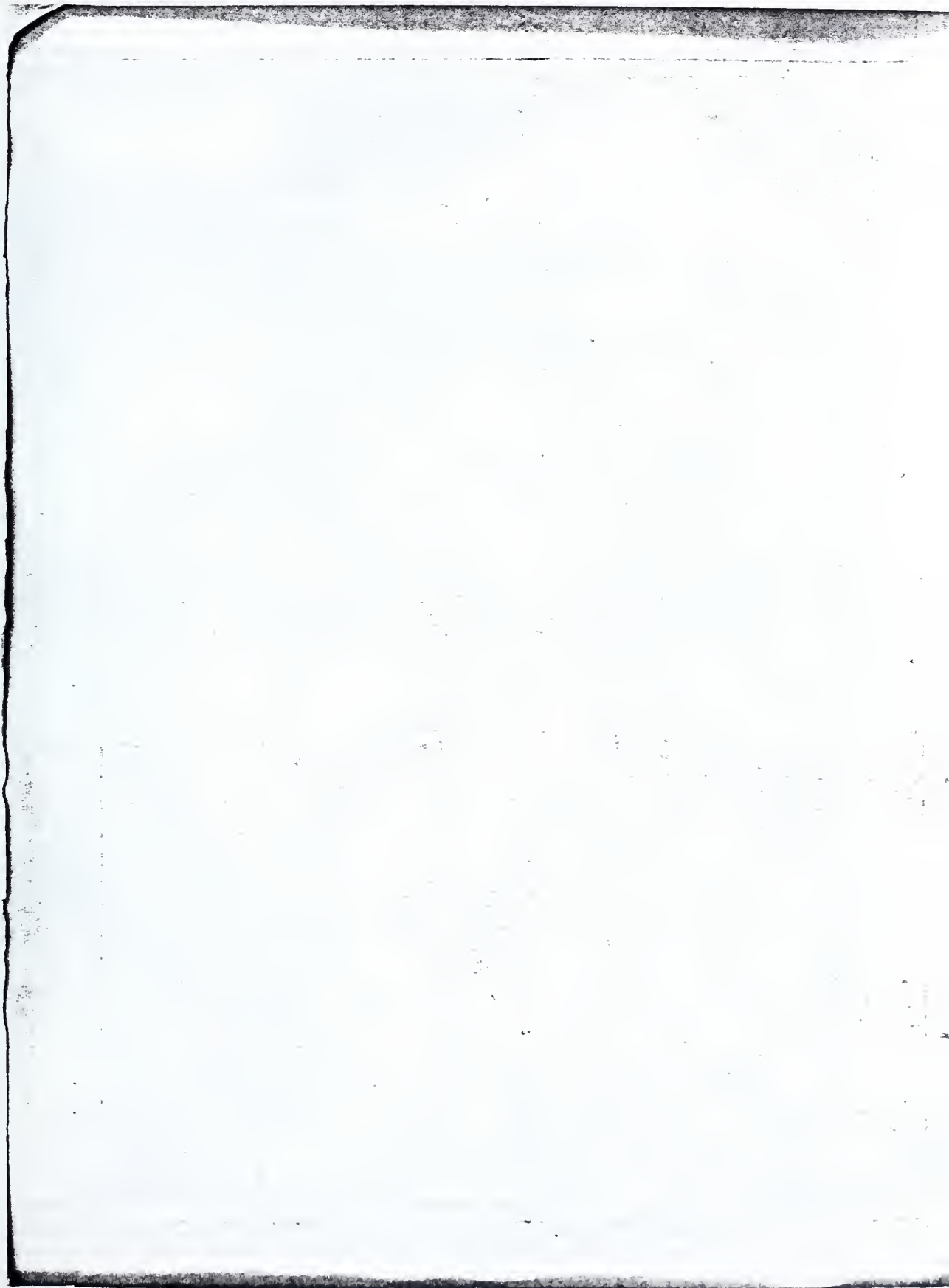


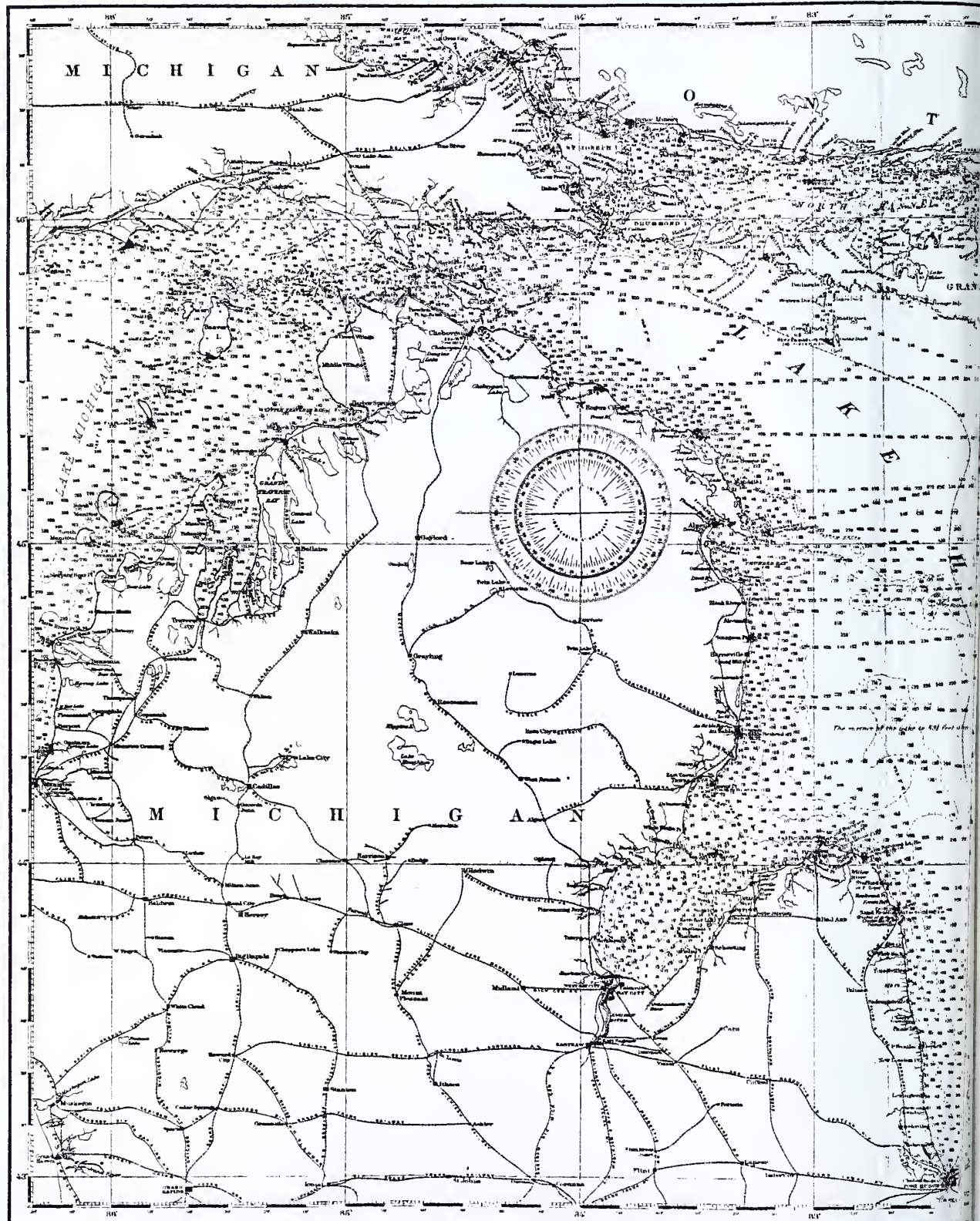
**SCALE OF STATUTE MILES**

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100













#### MEASURING DISTANCES

When two places are on the same meridian their difference of latitude equivalent to distance in nautical miles.  
When the two places are on different meridians draw a straight line connecting them on the chart and lay off on the Parallel Latitude scale the half the length of this line above the middle latitude between the two places and the other half below that point. The difference of latitude is measured between the point thus marked and the equatorial line on vertical scales.  
The straight line half the length of the line connecting the two places with great circles (radius) or laid off on the Parallel Scale from above the middle latitude 44° 32' in the compass and extended gives 100 to the nearest full minute as the difference of latitude between the points laid off. The distance in degrees equal to 100 nautical miles.  
To convert nautical miles to statute miles multiply the former by 1.15.  
To convert statute miles to nautical miles divide the former by 1.15.  
To convert statute miles to statute miles multiply the former by 1.15.  
To convert statute miles to statute miles multiply the former by 1.15.

#### FOR SIGHTS

1. On the chart of the coast of the United States  
2. On the chart of the coast of the United States  
3. On the chart of the coast of the United States



NORTH AMERICA  
UNITED STATES AND CANADA

## LAKE HURON AND GEORGIAN BAY

Compiled from the latest information

#### SOUNDINGS AND HEIGHTS IN FEET

Soundings shown in the water in fathoms are 10  
fathoms longer or shorter unless noted as such

#### BAROMETER AND THERMOMETER

There are special charts of the places at which  
the barometer is indicated (see entry 10000)

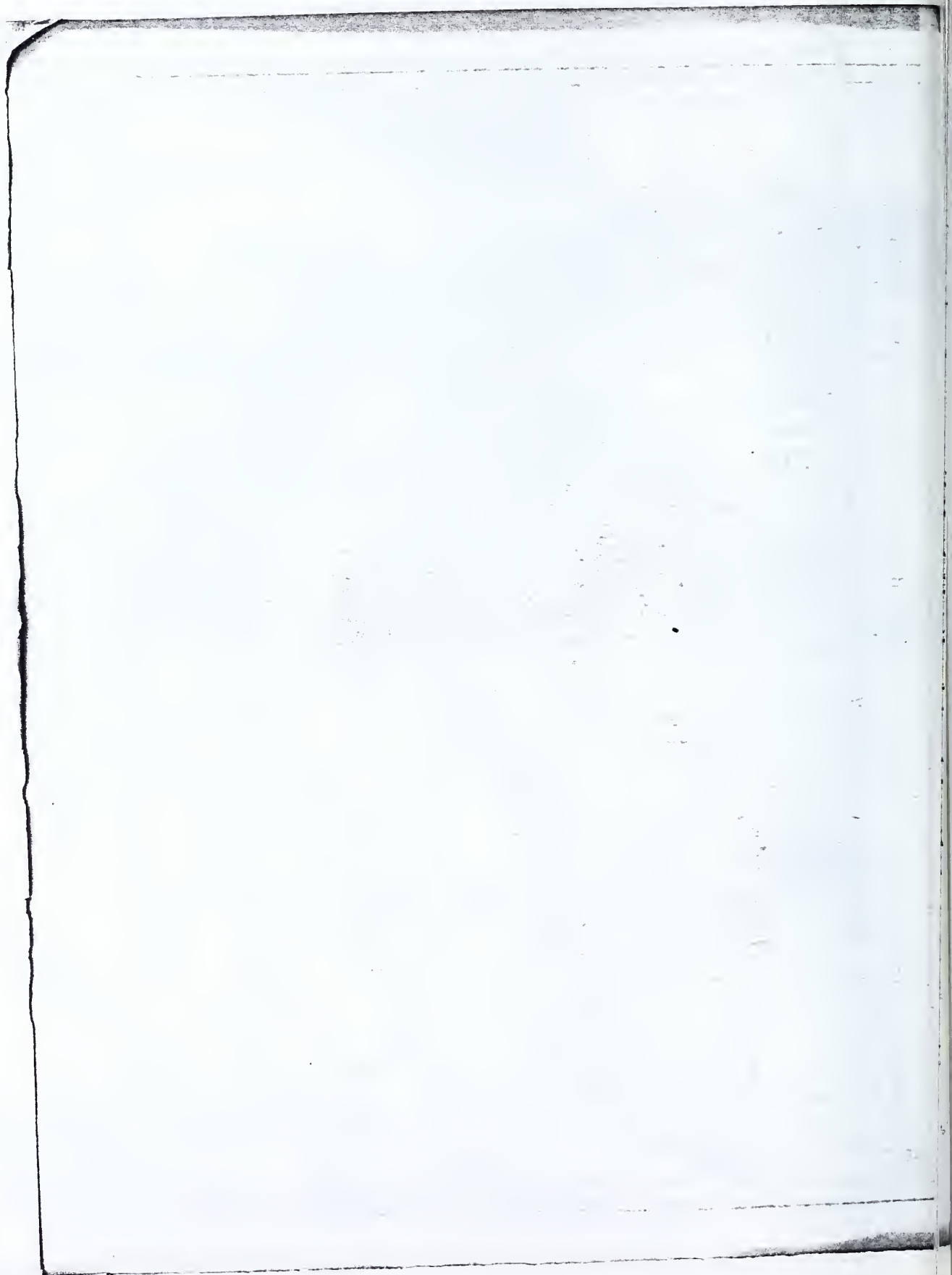
1. Day 2. Night 3. Wind 4. Rain 5. Snow 6. Fog 7. Clouds 8. Ice 9. Light 10. Other

#### LIGHTS

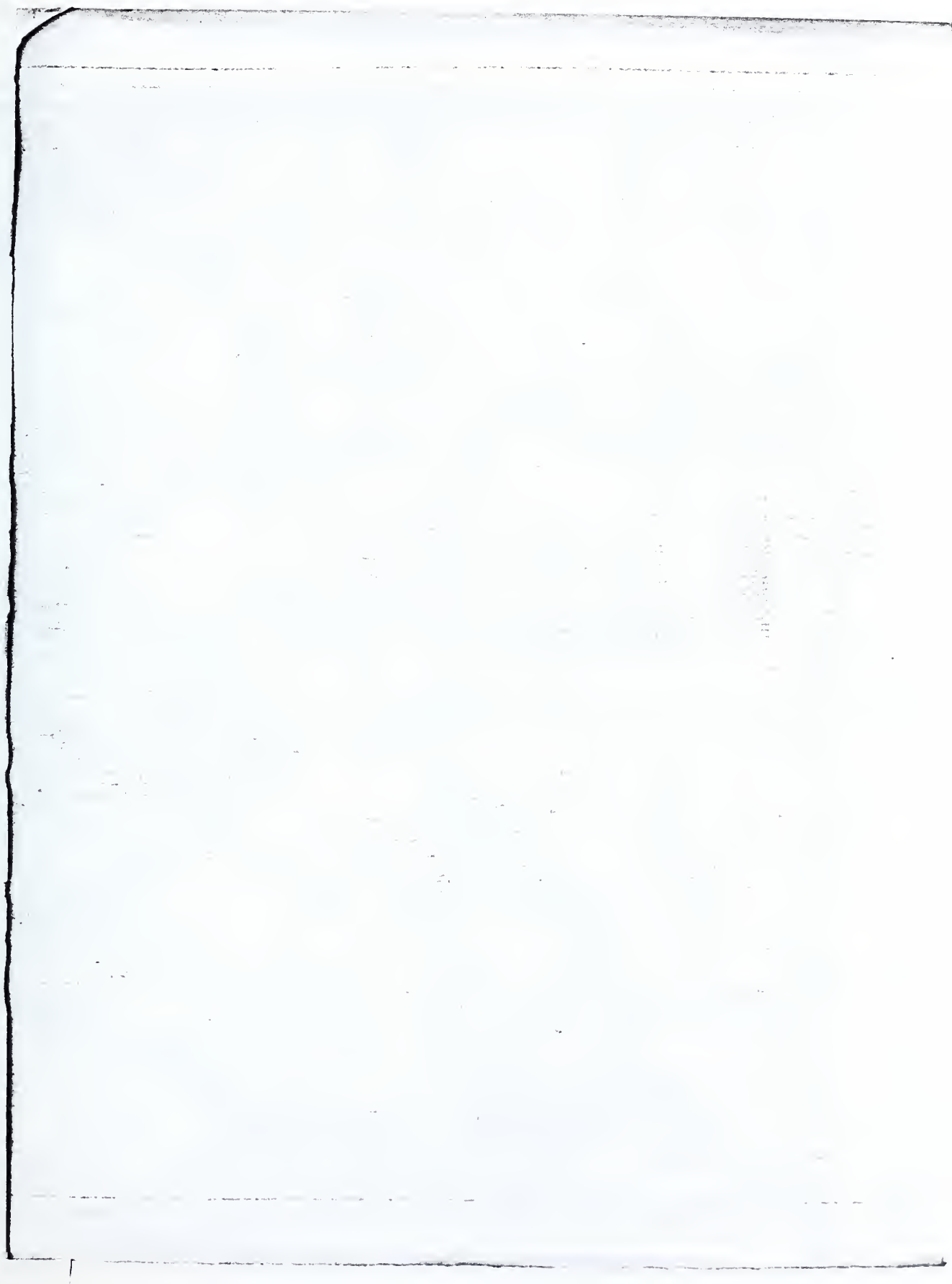
1. Fixed 2. Flashing 3. Flashed 4. Revolving 5. Revolving and flashing 6. Revolving and flashing 7. Revolving and flashing 8. Revolving and flashing 9. Revolving and flashing 10. Revolving and flashing

#### STOPS

1. Black and white 2. Black and white 3. Black and white 4. Black and white 5. Black and white 6. Black and white 7. Black and white 8. Black and white 9. Black and white 10. Black and white

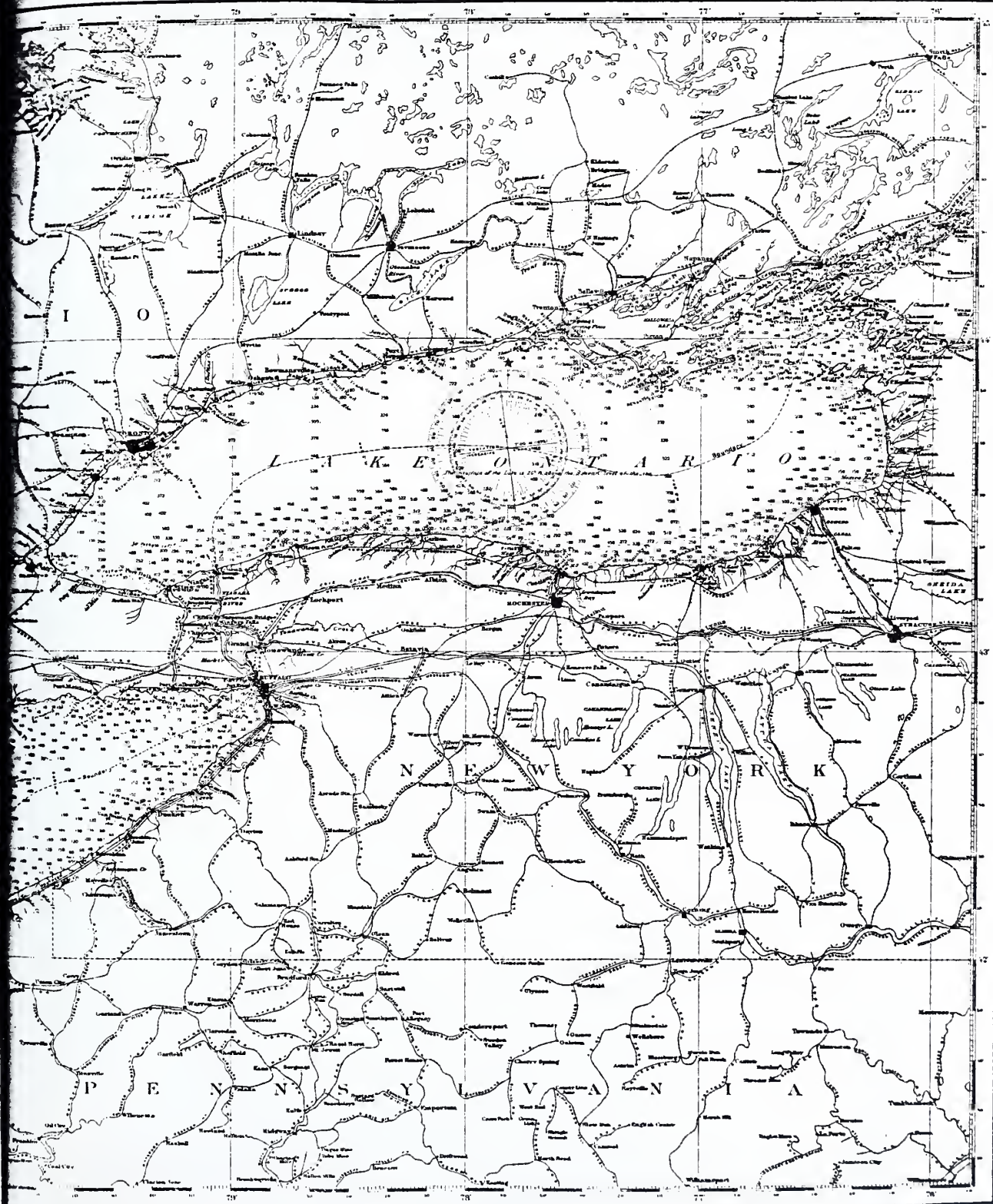


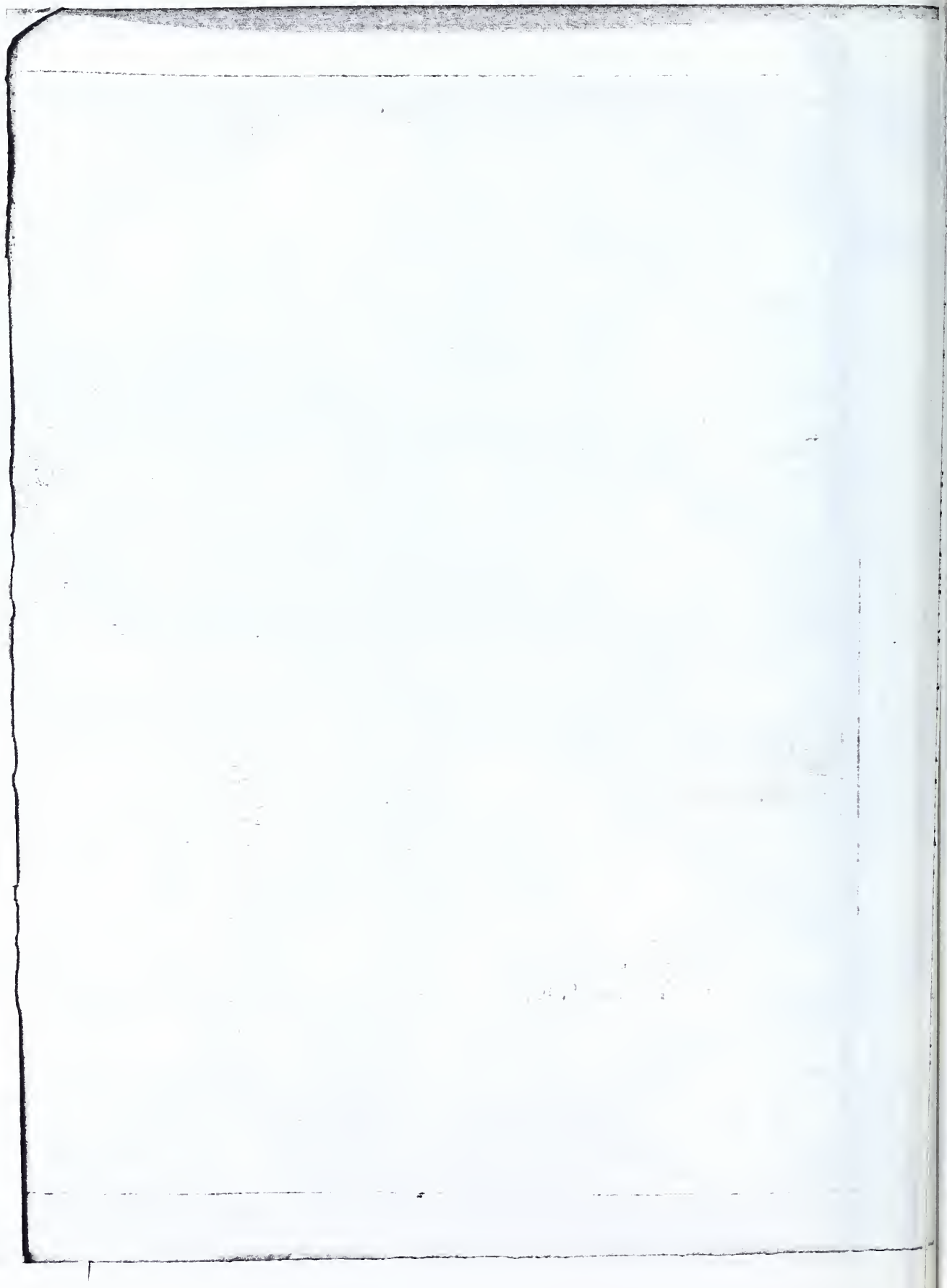




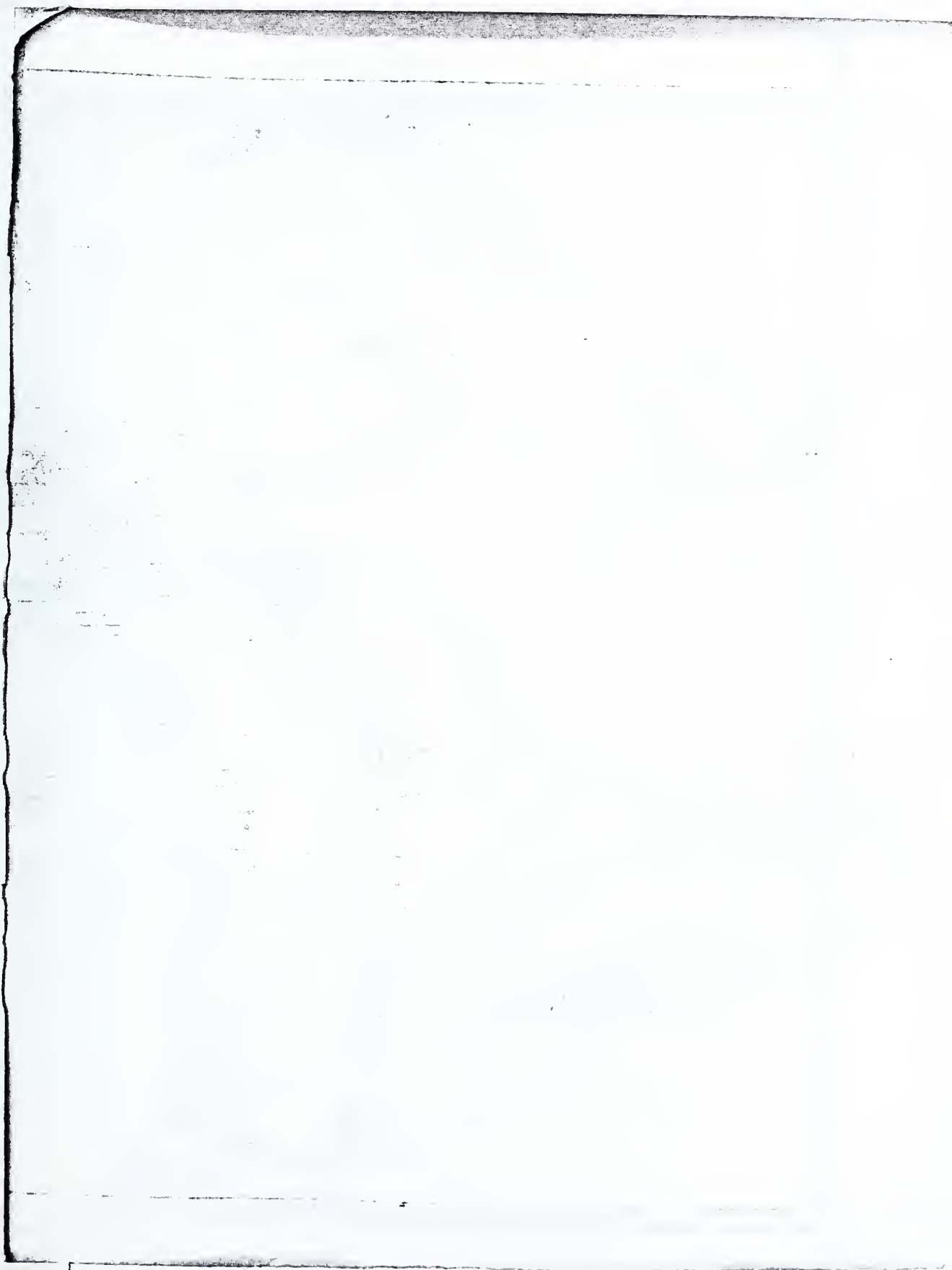




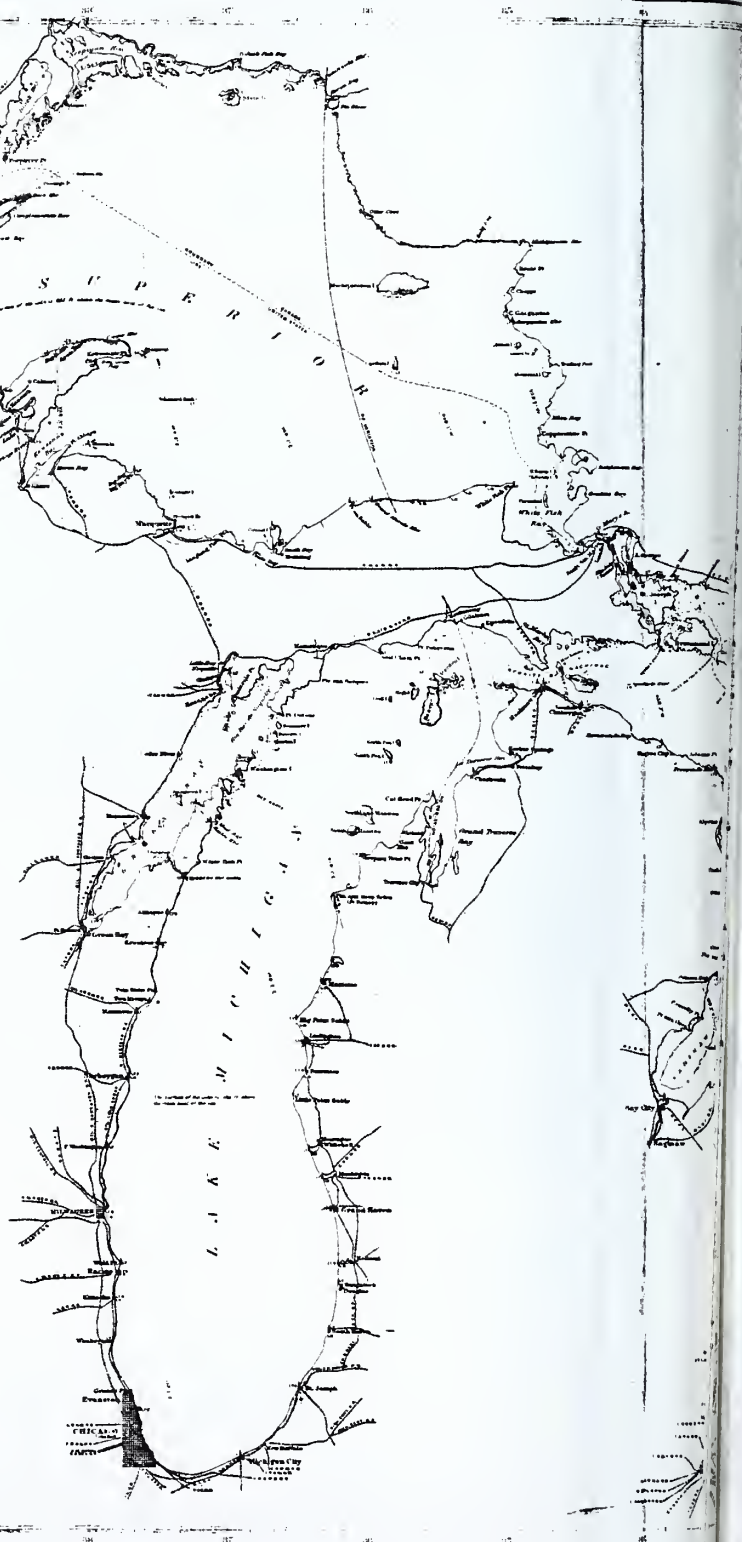


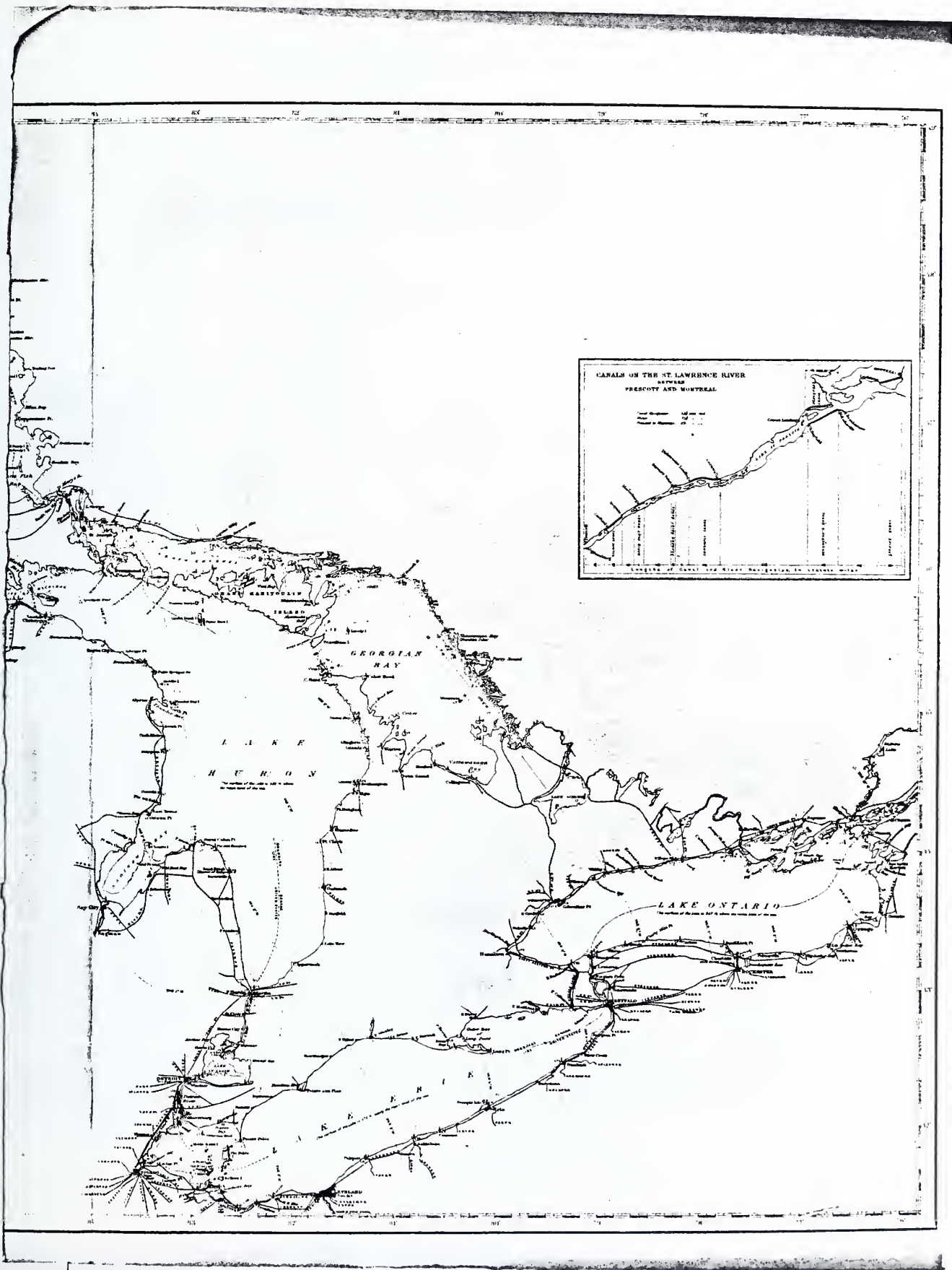


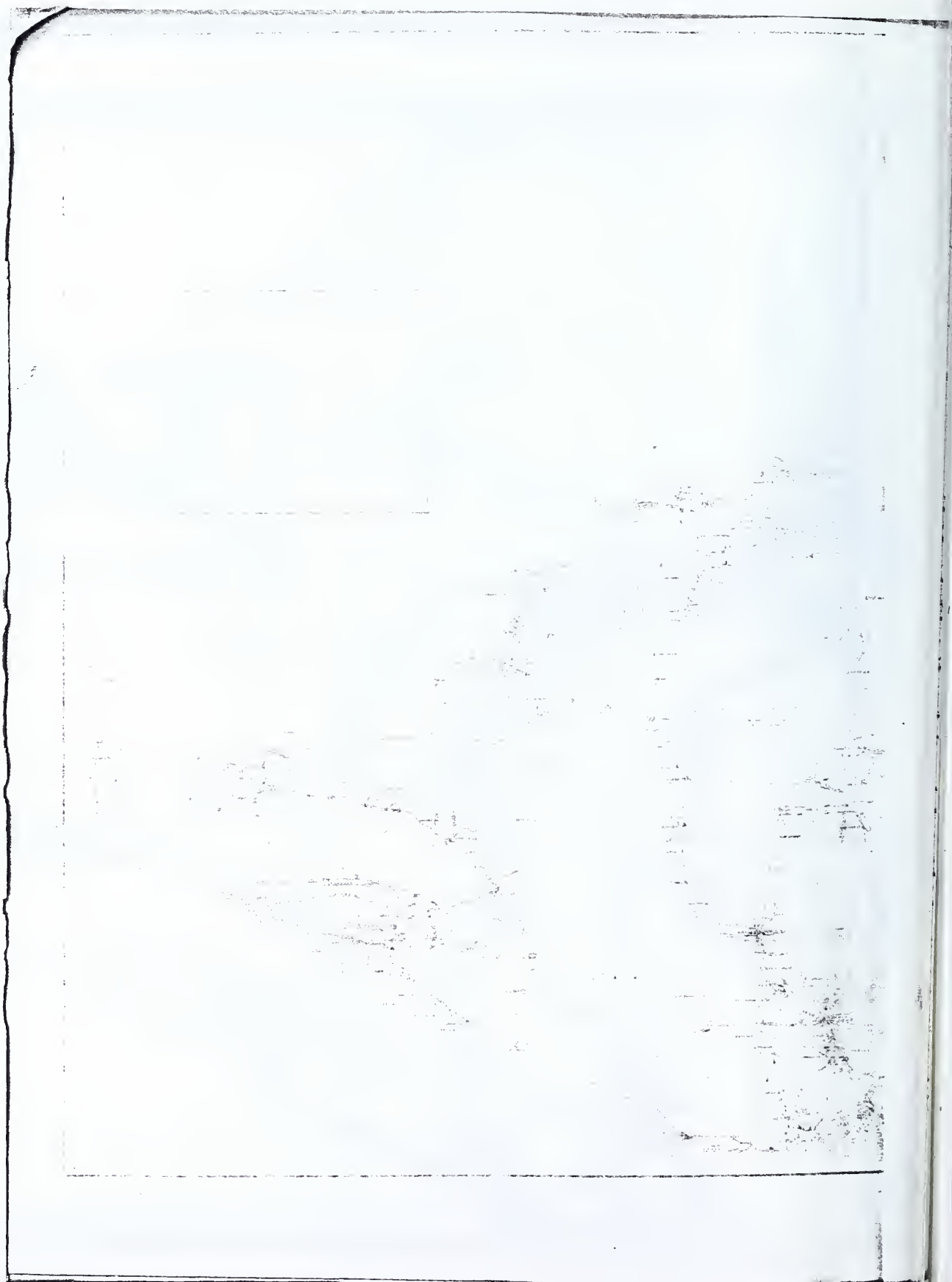




OUTLINE MAP  
OF THE  
GREAT LAKES









# GENERAL HISTORY.

## CHAPTER I.

### INTRODUCTORY.



ANCIENT civilizations clustered around a great inland sea, and from its broad expanse of waters inhaled the breath of life and national dominion. Upon its fruitful shores thrived the hardy and courageous Phœnicians,

Lakes, and attained conspicuous eminence and wealth.

The third century since the eyes of white men first fell upon the broad expanse of inland waters is approaching its close. For two of these centuries the destiny of the Great Lakes, their ownership and control, and the tremendous factors for civilization that lay back of that ownership, hung trembling in the balance of unknown forces. For two centuries their vast extent was explored and the early voyageurs trafficked in the products of savage life. For two centuries the commerce possibilities of the favored region lay dormant, waiting for the coming of the conquerors. In 1615, Champlain, the intrepid French explorer, first looked out upon the restless sheen of Lake Huron. In 1815, two centuries later, the region of the Great Lakes was welcoming the earliest permanent pioneers. When the treaty of peace between Great Britain and the United States was under consideration at Ghent, in 1815, suggestions to the United States were made by the British commissioners that the waters of Lake Superior be withdrawn from the jurisdiction of the former country. The suggestion was declined; but the terms of peace, as there formulated, marked the close of the early and unsettled period of lake marine history and the dawn of modern commerce. All that belongs to the merchant marine, as now understood, is bounded within the years of the present century.

The first two centuries of occupation and navigation by the white men are rich in

whose fabulous riches were gathered from many climes by brave and daring mariners. There the refined luxury of Egypt basked in the light of many centuries. The imperishable brilliancy of Greece flashed upon the white-capped waves of the same great waters. There, too, uprose the might of Rome, breaking all previous civilizations beneath the resistless advance of her legions. Large fleets of stanchly built triremes, bristling with a soldiery that never knew defeat, sailed its billows and drew tribute from the nations of the earth. The great Mediterranean, "in the midst of the world," was the life and the pathway of all commerce.

In the new world lies a cluster of inland seas, matchless in extent, about which has been growing for three centuries a new civilization, surpassing in splendor and in might the sea-girt empires of the past. Upon these Great Lakes are fleets that excite the wonder of the world. Commerce has here established a new domain, developing with marvelous rapidity in recent years, and the future of which no man dares measure by existing standards. Cities, peopled by a progressive and dominant race, have sprung up along the shores of these Great

stirring romance and heroic struggle. Stretching inland a thousand miles from the seacoast of a new-found continent, the lakes became the highway for adventurous explorers long before the American colonies had become firmly established. Upon the lakes the fervid zeal of religious devotees found expression in deeds of rarest heroism and self-sacrifice. Embassies of European sovereigns unfurled their banners, and when claims conflicted struggled for the mastery of the great waterways. Traders sought in the remote and desolate waters the rewards of daring venture. The compassionate ministrations of religion, the pompous acts and executions of kingly power, the dominant ambitions of individuals, mingled and composed the picturesque fabric which forms the background of modern lake history.

Nor must there be forgotten the primitive races, found dwelling in this region. The aborigines were skillful navigators upon the inland seas, and in fleets of bark canoes sailed coastwise up and down the lakes. The fate of these Indian tribes was soon involved in the designs of the ambitious white invaders. Friendships were formed, and the fires of Indian hatred kindled. Back and forth rolled the tide of Indian supremacy upon the lakes—just as it had rolled for centuries before—as crowning victory or crushing defeat had marked these savage combats.

Among all the Indian tribes that lived in the region of the Great Lakes none were so powerful, none so feared as the proud, relentless Iroquois, then seated in calm security and undisputed possession upon the southern shores of Lake Ontario. Almost at the first approach of European invasion, this haughty people was attacked by the French explorers, an aggression that proved to the latter a most fatal step. Aroused to implacable fury, the Iroquois, or Five Nations, for a century and a half became a terror to the settlers of Canada and to their Indian allies, wreaking vengeance with pitiless fury, exterminating whole tribes or driving them far and forever beyond the region of the Great Lakes.

And when the English colonists, who

had settled upon the Atlantic seacoast, finally reached out toward the lakes, they found willing allies among the Iroquois. For many years this spirited race, alone and unassisted, had withstood the repeated invasions of French troops, determined to crush all opposition to Gallic dominion upon the lakes. Slowly the Five Nations melted away, but they stubbornly held their ground until the advance of English colonization and claim gave them aid, and brought to a climax the supreme struggle for the mastery of the great lake waterways.

France lost her Canadian provinces, and for a few years, save during the irruption of Pontiac and his confederates, the flag of St. George floated triumphantly from the head of Lake Superior to the mouth of the St. Lawrence. When revolution swept through the American colonies, and a new nation was created, most fateful among the issues of peace arising between it and the mother country was the disposition of the lake country. The genius of Franklin on this occasion rose superior to French and Spanish diplomacy, and gained for the United States and for Great Britain each a borderland upon the Great Lakes, and to each free access to their wide and commerce-bearing waters.

Years passed away before the mutual rights, then outlined in the treaty of peace, became effective. Not in a day nor in a year could expire the fierce glow of animosity engendered by that struggle. Various stipulations remained to be fulfilled, and in their fulfillment there was mutual delay and irksomeness. English garrisons held possession of the southern shores of the lakes until 1796. And when the smoldering embers of strife burst forth anew in the war of 1812, the Great Lakes again became the scene of spirited engagement, adding fresh laurels to Anglo-Saxon bravery and seamanship. That contest happily ended, the free navigation of the lakes, as pledged at the close of the previous war, became cemented by national agreement substantially as now enjoyed.

Then the dawn of modern commerce faintly limned against the eastern skies the hues of coming greatness. Bright and

brighter grew the flush of morn, as fleets grew strong and powerful, as hardy pioneers pressed westward, possessed these favored shores and built prosperous cities, as bountiful crops were garnered in adjacent States and freighted eastward on the lakes to distant markets, as mineral resources were developed and grew to almost magic importance in the industrial economies of the world. The day is still sparkling in the freshness of morning dew. The noonday splendor of the Great Lakes, as measured by the cycles of time, is far in the unexplored future.

It is difficult to fully appreciate the debt which America owes to her inland seas. The destiny of the nation is now unfolding to a magnitude that was unsuspected a year ago. Large maritime enterprises will be undertaken. One of the great works of the immediate future will be the construction of the Nicaragua canal. It will unite the distant shores of the nation, and give insularity to her dominion. But more important far to the North American continent than even this stupendous enterprise has been the development of navigation on the Great Lakes.

Piercing the heart of the nation, reaching the rich prairies, where grow the most bounteous crops, linking the rich iron ore of the West and the choicest fuel of the East, touching on every shore a verdure of forest growth of untold depth, it is little wonder that the lakes attracted a courageous and enterprising people, little wonder that cities and towns sprang up, and that white-winged ships appeared and multiplied to freight the commerce of this thrifty people.

Agricultural wealth in the west owes its success to the Great Lakes. Washington perceived the need of transportation facilities to the interior of the country, as it existed more than a century ago, and he advocated and encouraged the construction of waterways; but for years the energies of the land proved unequal to the task. Farming languished beyond the Alleghanies until the completion of the Erie canal. Then was given an impetus to Western emigration which continued until the region of the lakes was populated; and when settlements penetrated still farther into the interior, railroads were constructed to unite the farms

and the Great Lakes. To-day the western farmer with his teeming acres, located some fifteen hundred miles or more inland from the seacoast, owes to the cheap lake freights his ability to reach the markets of foreign lands.

Manufacture, now rising as a formidable rival to agriculture in commanding the material prosperity of America, is to an even greater extent the beneficiary of lake navigation. Pittsburg, for many years the recognized iron center of the United States and now of the world, owes its supremacy to the ore traffic of the lakes. New England's many hives of industry maintain a close industrial relationship with the West by means of the freighters of the lakes. The diversified industries of populous Chicago are indebted for their prosperity to the same unexampled transportation facilities, and the same remark must be applied to the many other manufacturing ports upon the Great Lakes. Nowhere has the growth of American cities been more conspicuous than here. Nowhere has prosperity more benignantly smiled than upon the shores of America's great inland seas.

The history of the Great Lakes is an interesting theme. It directly concerns many people—those who sail the waters of the lakes, those interested in their tributary resources, those who dwell in their populous cities. Few, indeed, are the residents of America to whom there have not come benefits, direct or indirect, from the masterful influences radiating from their shores. A picturesque charm pervades the scenes of early traffic and adventure. The transformations from time to time in the size and construction of the lake craft, the forces that created fleets, the invincible spirit of enterprise that developed the tremendous resources of the region, the energies both of government and individuals put forth to overcome the obstacles to a more extended and efficient navigation of the lakes, a chronological review of the important marine incidents, sketches of the individuals whose lives have been devoted to the building of the lake marine; these and many other features teem with interest and come within the purview of this work.



## CHAPTER II.

### GEOLOGICAL.

HOW THE LAKES WERE FORMED—ONCE A TABLE LAND—BURIED RIVER BEDS—RELICS OF NATURE'S ANCIENT HANDIWORK—ANCIENT RIVERS—THE LAURENTIAN, HURONIAN AND ERIGAN RIVERS—LAKE REGION SUBMERGED—TILTING UP OF THE LAND FROM THE NORTHEAST—DISTRICT RE-ELEVATED—BIRTH OF THE GREAT LAKES—PROCESSES BY WHICH THEY ATTAINED PRESENT BEDS—FUTURE DRAINAGE INTO THE MISSISSIPPI—GREAT SCIENTIFIC INTEREST.

WHERE the chain of Great Lakes now tosses its restless waters, there once stood a tableland, elevated many hundred feet above the prehistoric ocean, and drained by an ancient water-way, which is yet faintly outlined in the trend of the present lakes. Among the marvels of the present generation are the wonderful advances made in the science of geology. The vast movements of the universe have left their indelible records stamped on the face of nature, but visible only to those who have patiently studied and read these signs.

It has been only during the past fifteen or twenty years that serious work has been attempted on revealing the geological history of the Great Lakes. The making of a continent is a work of ages. Through unnumbered centuries lands have slowly emerged from the vastness of the ocean, mountains have been built and valleys carved by the mighty forces of nature, forever active. Viewed from geological time the work is not completed, and looking alone to our Great Lakes, their present boundaries and trend are only transitory. To the northward the land is slowly rising at the estimated rate of several feet a century and slowly tilting the lakes to the southward, a matter of small importance in a century, but destined in the eons yet to come, to work important changes, should the terrestrial forces, now active, continue uninterruptedly along their present lines of energy.

This is scientific speculation. But to go back from the present into the realms of the past is history, and in that direction the

tracings of the ages are as wonderful as they are real. Dr. J. W. Spencer, one of the geologists who have made special study of the creation of the Great Lakes, says that the last touch in the completion of the North American continent has been the making of these lakes. He describes the ancient conditions. "In very ancient times," he says, "the lake district formed a great plateau at a considerable altitude above the sea, with some bordering mountains or high lands." It was high enough to permit the excavation of deep valleys, many of which have long since been filled up with sand and drift and now lie beneath the lake waters. The sea was then farther distant from the present lake region than now.

*Ancient Rivers.*—The courses of these buried river beds have been traced with considerable detail during recent years. They are described by Mr. Spencer in an article in the *Popular Science Monthly*, on "How the Great Lakes were Built," from which the following account is by permission abridged: "In the lake district wells have been sunk for considerable depths for water, oil and gas. On the now level plains the borings have often penetrated great depths of loose rock and dirt deposits before reaching the solid strata, yet, perhaps, in proximity, the bedded rocks appear near the surface of the country. These depressions are portions of ancient valleys, which have been filled often to depths of 500 feet, and in some cases probably to 1,000 feet. By chains of borings the buried valleys may be



traced; their general course is frequently shown by the surface features; but without the borings their great depth would not be suspected."

drift, and also submerged in extending by way of Mackinac straits to the Huron basin, across which its course is plainly marked

at the foot of an escarpment from 350 to 450 feet high, and the whole somewhat further submerged. Again it passes through the narrows across the broken mountain ridge into Georgian Bay, where the deep channel skirts the foot of another high escarpment. The old waterway across these lakes is shown in the accompanying map. (Fig. 1.)

From Georgian Bay, continues Doctor Spencer, the ancient channel is buried below drift deposits to a known depth of 700 feet, and almost certainly the drift reaches to a depth of 1,000 feet beneath the highest obstructing ridges. The course of the channel passes through Lake Simcoe and enters the Ontario valley about 20 miles east of Toronto, where the deep trench is made known by the surroundings in the lakes. Throughout the Ontario valley the Laurentian river flowed at the foot of a high escarpment, now submerged. At the eastern end of Lake Ontario the channel turned toward the present outlet of the lake and then down what is now the modern course of the St. Law-

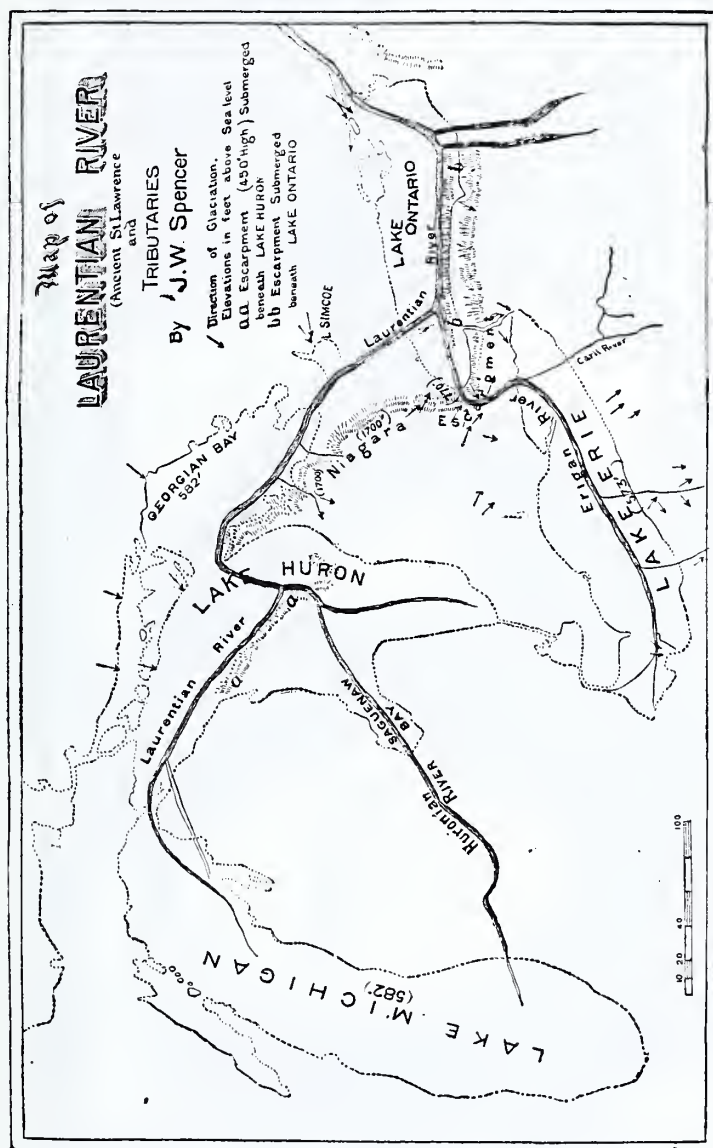


FIG. 1. MAP SHOWING COURSE OF THE ANCIENT ST. LAWRENCE AND ITS TRIBUTARIES.

From the northern portion of the Michigan basin the channel of the ancient Laurentian river is more or less buried beneath

rence to the sea.

One of the great tributaries was the Huronian river, crossing the southern portion

of Michigan, as shown upon the map, and extending through Saginaw Bay to join the Laurentian river farther north. The Superior outlet is supposed to have crossed the upper peninsula of Michigan and joined the branch, draining from the northern end of what is now Lake Michigan.

The now shallow Erie basin was then a portion of a plain, across which the ancient Eriean river flowed in a valley 200 feet or more in depth. One of the buried and submerged tributaries at Cleveland was described by Dr. J. S. Newberry, others by Dr. T. Sterry Hunt, and those near Buffalo by Dr. J. Pohlman. From the Erie basin the Eriean river crossed by a channel about forty miles west of the Niagara river, which did not then exist, and passed down the Dundas valley into the head of the Ontario basin and farther eastward joined the Laurentian river. There were no great waterfalls, though rapids must have existed.

In the highlands to the south of the lakes, the ancient streams were tributary to the Laurentian, in place of to the modern Ohio and Susquehanna rivers.

The Alleghany flowed to the Erie basin, as did also the upper

Ohio. These and other streams now reversed were tributaries of the Eriean river. In New York the upper Susquehanna and some

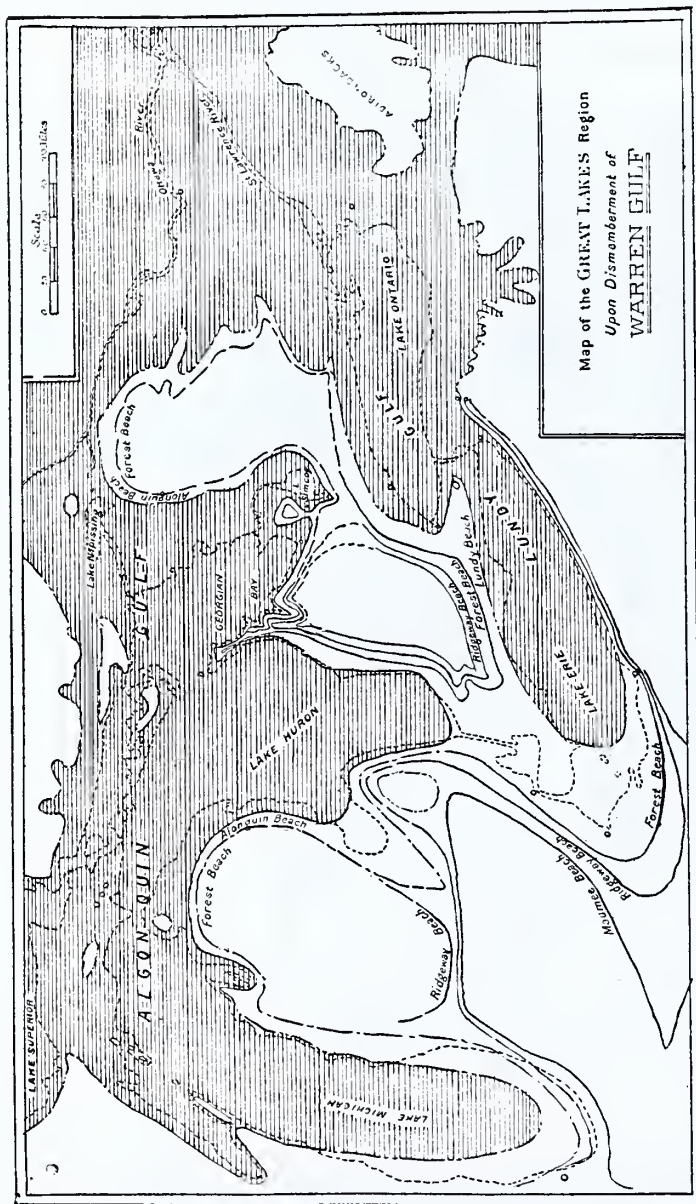


FIG. 2. MAP OF WARREN WATER BOUNDED BY FOREST BEACH, AND ITS SUCCESSORS. Surveyed shores represented by solid lines; partly surveyed, by broken lines; modern lakes, by dotted lines.

tributaries descended through the "finger lakes" to the Laurentian river as it passed

through the Ontario basin. The Laurentian valley and its tributaries were completed before the ice age. As for

slight, and does not appear to have been more than the sweeping of loose geological dust into the valleys, or on to the highlands

to the south. It was this filling of the old channels with drift that closed the ancient drainage of the Laurentian valley, which at a later date gave rise to the lake basins.

*Lake Regions Submerged.*—After the obstruction of the valleys with drift, the whole lake region was submerged and coast lines were formed. These old shore lines may now be traced in the western and central portions of the lake regions, for toward the northeast the waters extended indefinitely. The embayment, called Warren Gulf, covered 200,000 square miles of the lake region.

The greater portion of the modern elevation of the region has been recorded in the tilting of the beach lines, and this tilting must have occurred after the glacial epoch. At the head of Lake Erie the deformation of the old water planes is not over a very few inches in a mile, while it increases toward the northeast, so that it amounts to four feet per mile northeast of Lake Huron, and seven feet per mile near the outlet of Lake Ontario and north of the

the modification of the ancient topography by glacial action, it could have been only

Adirondack Mountains, to which locality Mr. Spencer has traced the deserted shores

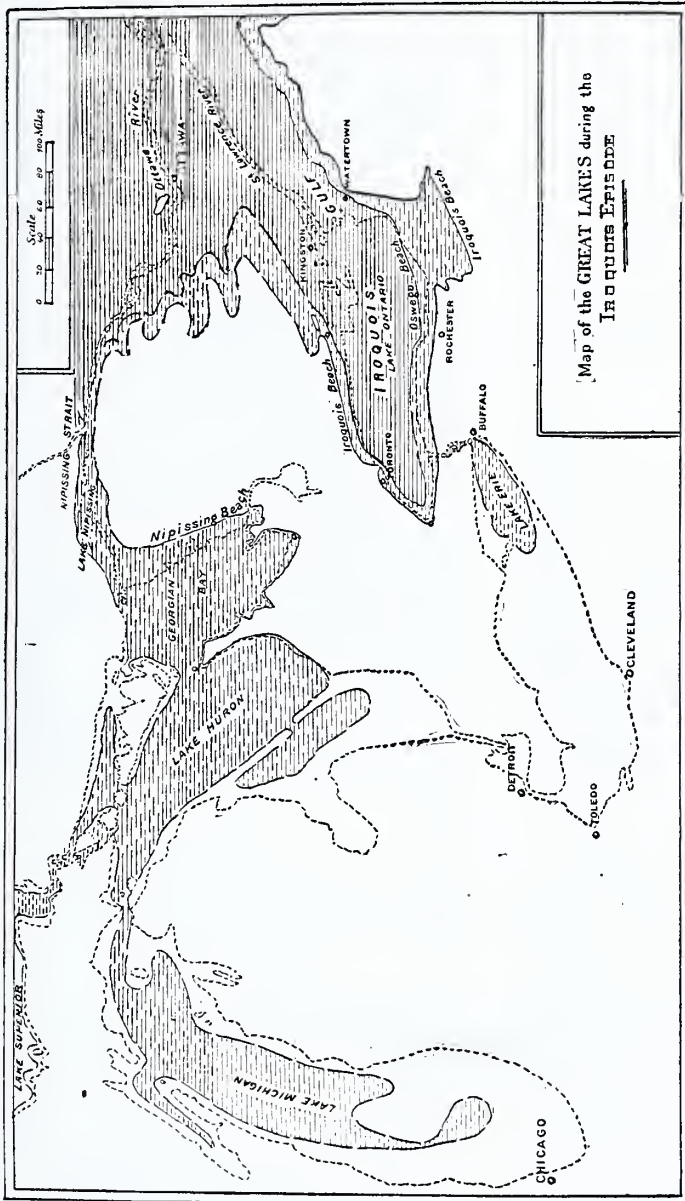


FIG. 3. MAP OF THE EARLY LAKES. Broken shading represents extension of the early lake epoch; solid shading, a lower stage of Iroquois Gulf before the birth of Lake Ontario; modern lakes, by dotted lines.



all the way from the head of Lake Michigan.

*The District Re-elevated.*—When the lake district was re-elevated after the post-glacial submergence, there were several water connections between Warren Gulf and the valleys to the south and west. The last stage of Warren Gulf is shown in Fig. 2 in the Forest beach line. As the land steadily rose the waters fell gradually 150 feet, and Warren Gulf was divided into two gulfs—Algonquin Gulf occupying the basins of Lakes Superior, Michigan and Huron, and Lundy Gulf occupying part of Lake Erie and the Lake Ontario region. There was free communication with the Atlantic ocean by way of the St. Lawrence and also southward of the Adirondacks. There was probably free communication also with Hudson Bay.

*Birth of the Great Lakes.*—The birth of the Great Lakes occurred when the waters fell some 300 feet below the Algonquin and Lundy Gulf planes, through the continued uprising of the land. There was an apparent rest in the subsidence when the waters reached the level of the Iroquois beach, shown in Fig. 3. The lands had then risen so high that much of the present basins had been drained, for there were no barriers. The waters of the upper lakes discharged by way of the narrow Nipissing strait.

Lake Erie, as shown on the map, was very small. In the Niagara district was a strait or lakelet, at the first without a fall. The tilting of the land to the northeast continued and the head of Lake Ontario rose 363 feet above the sea level, the foot of Lake Ontario 730 feet and the northeast corner of the Adirondacks 1,500 feet. This warping up of the continent interposed a barrier to the free communication between the waters of the lakes and the sea, and now maintains Lake Ontario 247 feet above the ocean level. The upper lakes were the first to sink far within their basins (see Fig. 3), but later even the Iroquois Gulf was contracted so as not to occupy even the head of the present Ontario basin (see Fig. 3).

The great deformation of the whole region since the close of the Iroquois episode has from that day to this been slowly rais-

ing the northeastern rims of the lake basin, so as to cause them to flood more and more the lowlands and valleys at their southwestern extremities, and even to raise the waters so high as to cover some of the deserted shores in those directions. At the same time the waters are leaving their old margins at their northeastern ends, as shown on the map (Fig. 3).

It is estimated that the Iroquois Gulf sank below the Iroquois plane about fourteen thousand years ago; but that the waters of Lake Huron, which had been emptying by way of the Nipissing strait for twenty-four thousand years, were turned into Lake Erie only eight thousand years ago. Again, after the waters of the Ontario basin had sunk much below the present western margin of the lakes, they were rising again to near their present height only some three thousand years ago.

Of the absolute amount of rise of the continent we do not know, for the axis of uplift has not been ascertained, but it is evidently in the interior of the continent. The differential rate of elevation varies, being about a foot and a quarter a century in the Niagara district, two feet northeast of Lake Huron, and nearly four feet north of the Adirondacks.

*Future Drainage into the Mississippi.*—With the land rising as at present, it will be only a matter of time until the northeastern rim of Lake Erie will be so high that the drainage must turn into Lake Huron, and thence by way of Lake Michigan and the Chicago canal into the Mississippi, and Niagara Falls will then end their life history. Some fifteen hundred years ago there was a barrier about a mile north of the present site of the Falls that had risen so high in the general regional uplift as to actually cause some of the waters of the upper lakes to overflow where the Chicago canal is now being built; but, owing to the peculiar buried valley just behind this ridge crossing Niagara river, when the falls had passed the barrier, before the change of outlet of the upper lakes from the Niagara to the Mississippi was completed, the upper lakes were rapidly lowered, and this re-established the life of the Niagara for some time longer.



It is calculated that in five thousand years the change in outlet from the Niagara to the Mississippi will occur. The commencement of the Warren Gulf epoch is estimated to have been sixty thousand years ago.

This story of the Great Lakes is arousing keen scientific interest. At the annual meeting of the American Association for the Advancement of Science, held at Detroit in August, 1897, papers on this subject were read by Prof. G. K. Gilbert and by Doctor Spencer, and at the meeting of the International Society for the Advancement of Science, held a few weeks later at Toronto, the same subject was exhaustively discussed. In geological time the formation of the Great Lakes is only an episode, but in human history an occurrence of stupendous significance.

In his paper, alluded to above, Professor Gilbert concludes that Lake Ontario is increasing slowly in area by the rising of the outlet. He says: "Lake Ontario lies altogether southwest of the isobar of its outlet, and the water is encroaching on all its shores. The estimated vertical rise at Hamilton is six inches per century. The whole coast of Lake Erie is also being submerged, the estimated rate at Toledo and Sandusky being eight or nine inches per century."

Professor Gilbert also says: "The slow changes of mean water level are concealed from ordinary observation by the more

rapid and impressive changes due to variations of volume, but they are worthy of consideration in the planning of engineering works of a permanent character." He does not claim that his estimates of the rate of this movement are beyond question, although the probability of large error is small. He estimates that the rise of the lake level at Chicago is about one inch in ten years. The change of level, he computes, is such that along a line one hundred miles in length at right angle to the axis of tilting it would amount to five inches per century. On this basis he estimates that in five hundred years the lake would (without artificial interference) overflow through its old channel west of the city at high stages of the lake; that at ordinary stages it would overflow in a thousand years; that in two thousand years it would draw away half of the outflow of the lakes, the other half still following its present course; that in three thousand years the entire outflow of the upper lakes would be westward through the Chicago outlet. These computations of course proceed on the assumption that the movement will continue at the present computed rate. Whether it will so continue or not is beyond knowledge. The forces that are concerned in these great movements of the surface of the earth are not fully known at present. How long a given movement will continue can only be conjectured.



## CHAPTER III.

### POETRY OF THE LAKES.

THE PICTURESQUE AND SUBLIME ON THE GREAT LAKES--FASCINATIONS OF LAKE SUPERIOR--DESCRIPTION WRITTEN A HALF CENTURY AGO--SCHOOLCRAFT'S ACCOUNT OF THE PICTURED ROCKS--CONSTANCE FENIMORE WOOLSON'S DESCRIPTION--POETRY OF THE PORTAGE CANAL--ST. MARY'S RIVER--BEAUTEOUS MACKINAC--ST. CLAIR FLATS--BEAUTIFUL BELLE ISLE--PUT-IN-BAY--NIAGARA FALLS--THE THOUSAND ISLANDS.

THAT sentiment of the human heart which experiences pleasure in the sublime and the beautiful in nature, can find on the waters of the Great Lakes and in their environment a wealth of enjoyment that is offered nowhere else on the globe. It was not for dazzling or inspiring scenery that the argonauts of the inland seas dared death or lingering privations, nor was it to feast the eye or fill the soul that the tide of emigration swept over and beyond the lakes. The presiding genius of the lakes to-day is materialistic rather than poetic. Its mission is the conquest of nature, through gigantic enterprises; and yet the business world pauses briefly each year and takes its outing; the summer resorts in the region of the lakes grow in the hearts of men.

It has been only in recent years that the marvels and picturesque beauty of the lakes have begun to be properly appreciated. Thunderous Niagara, mighty and alone in its manifestation of power, has, it is true, attracted the tourist ever since its wonders have become accessible, but Niagara is only one of the many gems that sparkle in the sheen and ever-changing iridescence of these inland waters. From the beauteous cluster of the Thousand Islands, engemmed at the outlet of the lakes, where the imprisoned torrents break away in their final dash to the ocean, on up through the galaxy of lakes to the sublime and gloomy Superior, there is ever-varying scenery, from the restful and peaceful glades by river sides to types of nature that suggest titanic forces. It is fitting here to record the impressions

which the more renowned of these scenes of wondrous beauty have inspired in all beholders. Lake Superior is perhaps the most fascinating and the least understood of all the lakes.

*Fascinations of Lake Superior.*—Lake Superior has at times, not only the varied interest, but the sublimity of a true ocean. Its blue, cold transparent waters, undisturbed by tides, lie, during a calm, motionless and glossy as those of any small, secluded lake, reflecting with perfect truth of form and color the inverted landscape that slopes down to its smooth, sandy beach. But when this inland sea is stirred by the rising tempest, the long sweep of its waves and the curling white caps that crest its surface, give warning, not only to the light bark canoe, but also to the schooner and lake steamer, to seek some sheltered haven.

"To me," says Alice Wellington Rollins, in *Lippincott's Magazine*, "the Great Lakes will always mean Lake Superior. It is something unique in the geography of the world, and you have the consciousness of your actual height above the level of the sea as you rarely have on any elevated land that is not actually a mountain. There is something singularly impressive in the mere silence and vastness of our great northern solitudes."

Julian Ralph is impelled to pay his tribute to the monarch of the inland seas in the following language. "How many who have not seen Lake Superior have ever allowed their fancy to estimate what it



THE COVE, PRESQUE ISLE.





must be—that great bowl which we, magnificent belittlers of the grandest of Nature's achievements, call a lake, yet which, were it in Europe, would have become one of the seas of the world, paraded by fleets of war and dividing empires? This lake is like a colossal diamond—clear, pure, sparkling, lying like a heaven-lighted gem in a bowl of rich greenery fringed with a lace-work of chromatic rocks that take on the most weird and enchanting shapes. The transparency of the water is so remarkable that it is no uncommon thing to see the complete outlines of a boat as it moves through the water, and I have myself seen not only all the divisional lines in the hull of a lake propeller and her keel and rudder, but the screw itself, while it revolved slowly, was in plain sight, so that the vessel looked as it might do if it were moving through the air. This astonishing clearness is not peculiar to the great lake alone, but is a characteristic of all the bodies of water in the entire Lake Superior region, be they little lakes or big ones, be they rivers or rivulets. At Marquette or Mackinac, or wheresoever you journey in this paradise of the seeker for pure air and Nature unalloyed, you may count the pebbles in the water's bed at a depth of twenty-five feet.

"I have come upon Superior at different points, and everywhere the imperial quality has impressed itself upon my mind. It is not merely big in itself, it is big in all its environments and details—in what you might call all its features. In few parts of the coast of the Atlantic itself has Nature done such bold, majestic work as she scatters lavishly all around Lake Superior; indeed, south of New England the Atlantic is dependent upon the imagination of the beholder for the awe and respect it inspires, since what might be called its shore scenery is everywhere tame. Very, very far from tame is the setting of this grand bowl of clearest water which our nation seems to be holding above its head, as if in a perpetual invitation for all the world to partake of our bounty. Massive stony walls, giant cliffs, fierce battlemented rocks, are the characteristics of Superior's shores; mighty fortifications against the still mightier water,

for everywhere the eternal masonry of the land is torn and ragged."

Charles Lanman describes in "Summer in the Wilderness," published in 1847, a trip on Lake Superior. He says: "I am constrained to yield the palm to Superior. For weeks did I explore its picturesque bays and extended sweeps of shore, following the promptings of my wayward will and storing my mind with its unnumbered legends gathered from the lips of my Indian companions. I seldom took a paddle in hand, unless it were for exercise, but usually employed my time, when the weather was calm, by reading or sketching; and often, when the sunshine made me sleepy, have been lulled into a dreamy repose by the measured music of the oars mingled with the wild chanting of the voyagers. It was the custom with my companions, whenever they caught me in those lucid intervals of joy, to startle me by a piercing whoop, which invariably announced a race upon the watery plain. And then, indeed, was it a most exciting spectacle to witness the canoes gliding to the destined goal, almost as swift as 'an arrow from a shivering bow.' Whenever I expressed such a desire, the party came to a halt upon the shore, and then it was that I mounted the headlands to gather berries or obtain a bird's-eye prospect of the lake. At times the roar of a distant waterfall would fall upon the ear, and I was wont to beg an hour's furlough for the purpose of catching a dozen or two of trout in the waters of a nameless stream. But my chief employment, whenever we landed, was to gather agates and pebbles of loveliest hue. In many places the gravelly shores were completely covered with them; and often, when attracted by one of a particular color or an unusual size, and when deceived by the marvelous transparency of the water, have I found myself far beyond my depths in the sleeping waves, which event was about the only one that could bring me to my senses. Many a time and oft, like a very child, have I rambled along the beach for miles, returning to my canoe completely loaded down with my treasures, which I sometimes carried with me on my journeys for a hundred miles and then threw away to make room

for others which I thought still more beautiful. Delightful, indeed, were those summer days on the bosom of that lonely lake. They are associated with my treasured dreams, and I cannot but sigh when I remember that I may never be privileged to enjoy the like again. My reason would not stop the tide of civilization that is sweeping to the remote north and the far Pacific; but if the wishes of my heart were realized none but the true worshipers of nature should ever be permitted to mar the solitude of the wilderness with the song of Mammon.

"But, if that were possible, the nights that I spent upon the shores of the great northern lake have made a deeper impression on my heart than those summer days. Never before has the ocean of the sky and the starry world appeared so supremely brilliant. Seldom would my restless spirit allow me an unbroken slumber from night-fall until dawn, and I was often in a wakeful mood, even after the camp fires were entirely out, and my rude companions were in the embrace of slumber. One of those wonderful nights I never can forget. I had risen from my couch upon the sand, and after walking nearly half a mile along the beach, I passed a certain point, and found myself in full view of the following scene, of which I was the solitary spectator: Black and death-like in its repose was the apparently illimitable plain of water; above its outline, on the left, were the strangely beautiful northern lights, shooting their rays to the very zenith; on the right was a clear full moon, making a silvery pathway from my feet to the horizon; and before, around and above me, floating in the deep cerulean, were the unnumbered and mysterious stars—the jewels of the Most High. The only sound that fell upon my ear was the occasional splash of a tiny wave, as it melted upon the shore. Long and intently did I gaze upon the scene, until, in a kind of blissful frenzy, or bewilderment, I staggered a few paces, fell upon the earth, almost insensible, and was soon in a deep sleep. The first gleam of sunshine roused me from slumber, and I returned to our encampment perfectly well in body, but in a thoughtful and unhappy mood. In fact, it

seemed to me that I had visited the spiritual world, and I wished to return hence once more. My friends had not wondered at my absence, when they awoke, for they supposed that I had gone merely to take my accustomed bath. But enough, enough! The voyager's life is indeed a romantic one, but it will not do for me to talk about it forever, and I therefore bring my description to a close."

The same writer thus describes the topographical features of the northern shore: "The entire Canadian shore of Lake Superior might be denominated as bold and rocky, but there may occasionally be seen a line of the smoothest beach, as if for the very purpose of affording protection to the voyaging Indians when exposed to the dangers of sudden storms. The bluffs are generally of a green sandstone, and frequently rise to the height of five hundred feet above the water, like massive bulwarks which seem to have battled with the elements for many ages. \* \* \*

"The two most prominent peninsulas on this shore are called Thunder Cape and Cariboo Point. The former is about fourteen hundred feet high, and frowns upon the waste of waters, like a crouching lion, which animal it closely resembles in the form of its outline. When passing near its base, it looms against the sky in awful grandeur, the seeming lord and master of the boundless wilderness world around. Cariboo Point is less lofty, but far-famed on account of the hieroglyphics, which have been painted upon its brow in other years, by an Indian race now supposed to be extinct. In the vicinity of these bluffs are found the largest and most beautiful agates in the world.

"The Canadian shore of this lake abounds in rocky islands. There is one deserving of particular notice. It lies in the northeastern part of the lake, and is unquestionably the greatest natural curiosity in this wilderness. I visited it with a party of Indians and miners. \* \* \* It is found about twenty miles from the main coast, and is supposed to be about a dozen miles in circumference. The shores are of sandstone, and for the most part rise

abruptly from the water to the height of four or five hundred feet. But the wonder is, that in the center of this island lies imbosomed one of the most beautiful lakes imaginable. It is about a mile long, and the perpendicular cliffs which look down upon it, are not far from seven hundred feet in height. It has an outlet which is impassible for a canoe on account of the rocks and trees that have blocked up the narrow chasm, and at the opening of this outlet stands a column of solid rock which we estimated to be eight hundred feet high. The base is probably one hundred feet in diameter, and it gradually tapers off to about twenty feet in thickness, while the summit of this singular needle is surmounted by one solitary pine tree. The waters of this inner lake are clear, but have a blackish appearance, and are very deep. It is so completely hidden from the surrounding world that the passing breeze scarcely ever ruffles its tranquil bosom, and the silence which reigns there, even at noonday, is intense and almost frightful. In some places the walls which surrounded the lake appear to have been recently rent asunder and partly demolished, as there were immense piles of broken rocks lying at their base; while in other places the upper points and edges are overgrown with moss, and from their brows occasionally depends a cluster of fantastic vines, drooping perpendicularly to the tranquil water, which reproduces this beautiful picture in its translucent bosom. The lake, so far as we could ascertain, is destitute of fish, and the island of animals; but when we were there gulls of every variety, and in immense numbers, were filling the air with their wild screams. The entire island seems to be composed of rocky materials, but is everywhere covered with a stunted growth of vegetation. I spent one day rambling over this singular spot, and one night slumbering by our watch-fire in the shadowy cove at the mouth of the ravine; and at dawn, on the following morning, we boarded our feathery canoes and were joyfully skimming 'over the deep waters of the dark blue sea.'"

"It is computed" he continues, "that the American coast of Lake Superior extends

to about twice the length of that which belongs to Canada. Our portion of the northern shore is skirted by a range of mountains which seem to be from two to three thousand feet in height. \* \* \* On the southern shore of the lake is a range called the Porcupine mountains; their varying outlines, seen as you sail along the coast, are very beautiful, indeed. Point Keweenaw is also covered with hills, but less lofty and picturesque than those already mentioned. That portion of the coast lying between this point and the river Saint Mary, is low and, with the exception of the Pictured Rocks, uninteresting. Though our shores are not, generally speaking, what we should call rocky, yet they are distinguished for a variety of remarkable bluffs. Those alluded to above are found on the east of Point Keweenaw, and extend along the coast some nine miles. They have been striped with various colors by mineral alluviations, and are about one hundred and fifty feet high. The most conspicuous of them is perhaps three hundred feet high, but its most superb feature was demolished by a storm in the year 1816. That feature, according to a drawing in my possession, was an arch or doorway, fifteen feet broad and one hundred high, through which the Indians were accustomed to pass with their canoes. In those days, too, from the crevices in these solid walls of whitish sandstone leaped forth beautiful cascades, and mingled their waters with those of the lake. Beautiful caverns meet the eye in every direction, and the water at their base is of a deep green, and in some places almost fathomless.

"A cluster of rocks, similar to the above, is found westward of the Apostle Islands. These, however, are composed of a deep red sandstone, and are only about one hundred feet high, extending along the shore for about two miles. The arches here are almost numberless and exceedingly picturesque, and singular; and you may wind your way among them in a canoe without the least danger, provided you have a steady hand and sufficient nerve. And the caverns too, in these bluffs are also very numerous, and some of them are so deep and dark



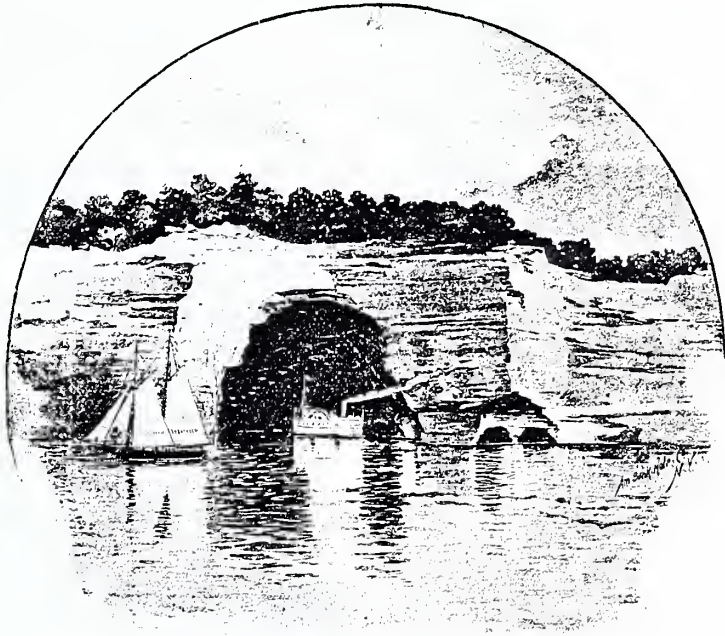
that the eye cannot measure their depths—and from these gloomy recesses, even in a season of calm weather, always issues a sound like thunder, which must be perfectly terrific when a storm is raging. All these bluffs are covered with a stunted growth of Alpine and other trees."

*Schoolcraft's Account of the Pictured Rocks.*—Schoolcraft, recounting his voyage made in 1820, thus describes the Pictured Rocks: "We reached the commencement of the Pictured Rocks (La Portaille of the French voyageurs), a series of lofty bluffs, which continue for twelve miles along the shore, and present some of the most sublime and commanding views in nature. We had been told by our Canadian guide of the variety in the color and form of these rocks, but were wholly unprepared to encounter the surprising groups of overhanging precipices, towering walls, caverns, waterfalls and prostrate ruins, which are here mingled in its most wonderful disorder, and burst upon the view in ever-varying and pleasing succession. The stupendous wall of rock, rising to the height of 300 feet, exposed to the fury of the waves, which are driven up by every north wind, across the whole width of Lake Superior, has been partially prostrated at several points, and worn out into numerous bays and irregular indentations. In some places the waves have lashed down the lower strata, while the upper ones hang in a threatening posture over the lakes; in others extensive caverns have been worn into the rock, and in this way rocky bluffs are nearly severed from the main, or left standing upon rude and massy pillars between which barges and canoes might with safety sail. Among many striking features two attracted particular admiration—the Cascade La Portaille and the Doric Arch. The cascade is situated about four miles beyond the commencement of the range of bluffs and in the center of the most commanding part of it. It consists of a handsome stream, which is precipitated about seventy feet from the bluff into the lake at one leap. Its form is that of a rainbow, rising from the lake to top of the precipice. We passed near the point of its fall, upon the surface of the lake,

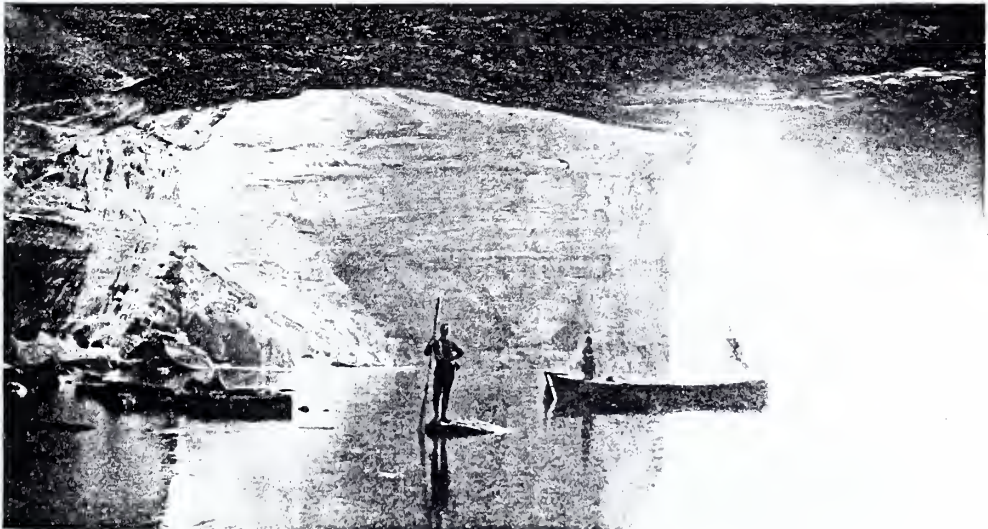
and could have gone, unwetted, between it and the rocks, as it is thrown a considerable distance into the lake. The Doric Rock is an isolated mass of sandstone, consisting of four natural pillars, supporting a stratum or entablature of the same material and presenting the appearance of a work of art. On the top of this entablature rests a stratum of alluvial soil, covered with a handsome growth of pine and spruce trees, some of which appear to be fifty or sixty feet in height. The entablature between the pillars is excavated in the form of a common arch, giving it very much the appearance of a vaulted passage into the court yard of some massy pile of antiquated buildings."

*Constance Fenimore Woolson's Description.*—Constance Fenimore Woolson has written a charming description of the same region. She says: "The Pictured Rocks stretch from Munising harbor eastward along the coast, rising in some places to the height of two hundred feet from the water, in sheer precipices, without beach at their bases. They show a constant succession of rock-sculptures, and the effect is heightened by the brilliancy of the coloring—yellow, blue, green and gray, in all shades of dark and light, alternating with each other in a manner which charms the traveler, and so astonishes the sober geologist that his dull pages blossom as the rose. It is impossible to enumerate all the rock pictures, for they succeed each other in a bewildering series, varying from differing points of view and sweeping, like a panorama, from curve to curve, mile after mile. They vary, also, to various eyes, one person seeing a castle with towers where another sees a caravan of the desert; the near-sighted following the tracery of tropical foliage, the far-sighted pointing out a storied fortification with a banner flying from its summit. There are, however, a number of the pictures so boldly drawn that all can see them near or far, even the most deadly practical minds being forced to admit their reality. Passing the Chimney's and the Miner's Castle, a detached mass, called the Sail Rock, comes into view; and so striking is the resemblance to a sloop with the jib and mainsail spread, that, at a short distance out at sea, anyone





THE GRAND PORTAL.



IN GRAND PORTAL—PICTURED ROCKS.



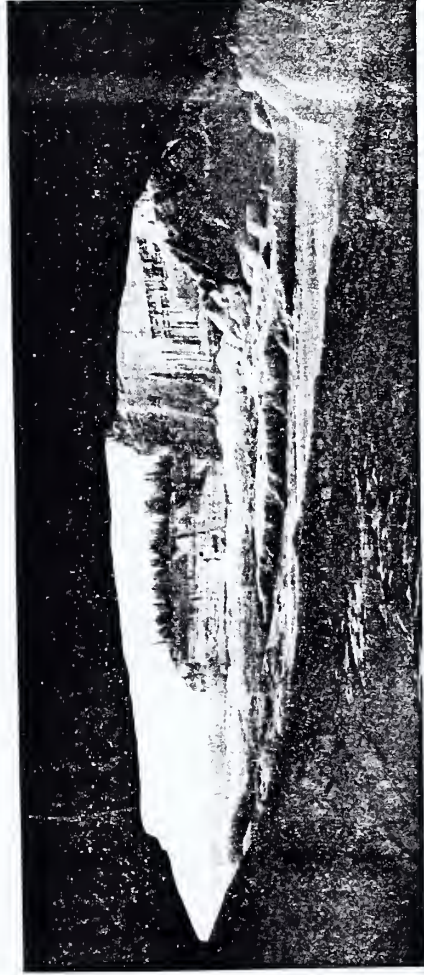




A BIT OF SURF.



ARCH ROCK, I RESQUE ISLE



CAVE OF THE WINDS, PICTURED ROCKS, FROM THE INTERIOR.



would suppose it a real boat at anchor near the beach. Two headlands beyond this, Le-Grand Portal, so named by the voyageurs, a race now gone, whose unwritten history, hanging in fragments on the points of Lake Superior, and fast fading away, belongs to what will soon be the mystic days of the fur trade. The Grand Portal is one hundred feet high by one hundred and sixty-eight feet broad at the water-level; and the cliff in which it is cut rises above the arch, making the whole height one hundred and eighty-five feet. The great cave, whose door is the Portal, stretches back in the shape of a vaulted room, the arches of the roof built of yellow sandstone, and the sides fretted into fantastic shapes by the waves driving in during storms, and dashing up a hundred feet toward the reverberating roof with a hollow boom. Floating under the Portal, on a summer day, voices echo back and forth, a single word is repeated, and naturally the mind reverts to the Indian belief in grotesque imps who haunted the cavern and played their pranks upon rash intruders.

"Farther toward the east is La Chapelle of the voyageurs. This rock-chapel is forty feet above the lake, a temple with an arched roof of sandstone, resting partly on the cliff behind, and partly on massive columns, as perfect as the columned ruins of Egypt. Within the rocks form an altar and a pulpit; and the cliff in front is worn into rough steps upward from the water, so that all stands ready for the minister and his congregation. The colors of the rock are the fresco, mosses and lichens are the stained glass; and, from below, the continuous wash of the water in and out through holes in the sides, is like the low, opening swell of an organ voluntary. A Manitou dwelt in this chapel—not a mischievous imp, like the spirits of the Portal, but a grand god of the storm, who, with his fellow god on Thunder Cape of the north shore, commanded the winds and waves of the whole lake, from the Sault to Fond du Lac. On the chapel-beach the Indians performed their rites to appease him, and here, at a later day, the merry voyageurs initiated the tyros of the fur trade into the mysteries of their craft, by plunging them into the water-fall that

dashes over the rocks near by, a northern parody on 'crossing-the-line.'

"The Silver Cascade falls from an overhanging cliff one hundred and seventy-five feet into the lake below. The fall of Niagara is one hundred and sixty-five feet, ten feet less than the Silver, which, however, is but a ribbon in breadth, compared to the 'Thunder of Waters.' The Silver is a beautiful fall and the largest among the pictures; but the whole coast of Superior is spangled with the spray of innumerable cascades and rapids, as all the little rivers, instead of running through the gorges and ravines of the lower lake country, spring boldly over the cliffs, without waiting to make a bed for themselves. Undine would have loved their wild, sparkling waters.

"The coast of pictures is not yet half explored; nor its beauties half discovered they vary in the light and in the shade; they show one outline in the sunshine and another in the moonlight; battlements and arches, foliage and vines, cities with their spires and towers, processions of animals, and even the great sea serpent himself, who at last, although still invisible in his own person, has given us a kind of rock photograph of his mysterious self. In one place there stands a majestic profile looking toward the north—a woman's face, the Empress of the lake. It is the pleasure of her imperial highness to visit the rock only by night, a Diana of the New World. In the daytime search is vain, she will not reveal herself; but when the low-down moon shines across the water, behold, she appears. She looks to the north, not sadly, not sternly, like the old man of the White Mountains, but benign of aspect, and so beautiful in her rounded womanly curves, that the late watcher on the beach falls into the dream of Endymion; but when he wakes in the grey dawn he finds her gone, and only a shapeless rock glistens in the rays of the rising sun."

*Poetry of the Portage Canal.*—It would scarcely be expected, perhaps, that the prosaic passage of a modern propeller through one of the narrow artificial canals, built for the convenience of commerce, would evoke the muse of poesy and sentiment.

Describing the passage of the propeller Japan through Portage river a few years ago, Alice Wellington Rollins, in *Lippincott's Magazine*, 1885, says: "So narrow is the opening of the river that no trace of it is to be seen till we are close upon it; yet swift as the dove from far Palmyra flying, unerring as an arrow from the bow, the great ship sweeps across the lakes to exactly the right spot. The river is hardly the width of a canal, yet curves as no canal would ever curve, so that the captain in giving orders has to watch both ends of the vessel to see that neither runs aground.

"Once in the river we experienced a most extraordinary transformation. Everyone knows what it is to pass in a day or two from northern snow to southern roses; but here, in five minutes, and remaining on precisely the same level, we passed from October to July. The cold lake breeze died away, and on the little inland river the sun was actually oppressive. Sealskins were cast aside and we sent hastily below for sun-umbrellas. The speed of the steamer was slackened to four miles an hour. You heard no click of machinery or swash of water against the sides; we were gliding on through a green and lovely marsh, with water lilies all about us and wild roses in the distance. Cattle stood knee deep in pleasant brooks, locusts hummed and buzzed in the warm air, all sweet summer sounds and scents encompassed us. There was even a little settlement of scattered houses, but the steamer created no excitement in the inmates. One man, painting the window-sashes of his house, with his back to the steamer, never even turned or paused from his work, though he was so near that he might have heard what was said about him on the deck."

The writer then gives this picturesque description of the course through the canal: "At twilight we entered the canal. I have been up the Saguenay, I have been over the Marshall Pass and through the Royal Gorge of the Arkansas, and I have seen many noble scenes in Europe, but no scenery has ever impressed me with such solemnity as the landscape on that canal in the twilight of an August afternoon; nor was it merely a personal impression. There were two

hundred souls on board, with the usual proportion of giddy, young girls and talkative youths; the negro waiters, as we entered the canal, were singing and playing their violins; but in an instant, as the speed of the steamer was again checked to four miles an hour, every sound was hushed on board. During the hour that was occupied in going through the canal, it is a literal fact that not a sound was heard on the great steamer but the low impressive orders of the captain, and—if you chanced to be on the captain's bridge—the ticking of the clock in the wheel-house. People spoke in whispers, if they spoke at all, quite unconscious of it until they remembered it afterwards. What made it so impressive? I am sure I do not know. Certainly, there was nothing awful in the scenery, and we never were in less danger in our lives. We were moving peacefully through a long narrow sheet of perfectly calm water, stretching straight as a die, from the river to the upper lake. If anything had happened, we could have jumped ashore on either side, and another steamer from Buffalo would have come through in a day or two and picked us up. The only thing possible to fear was that we might ground in the shallow water. It was a perfectly clear evening after a most beautiful day. But on either side of us, far as the eye could reach, stretched an apparently unbroken forest. Through the narrow vista, cleared for our silvery pathway, a slow and stately twilight, came solemnly to fold us in its embrace, as we advanced solemnly and slowly from vast and awful solitudes to solitudes more vast and awful still. As we drew near the lake again a little lighthouse gleamed, and as we swept past it out into the broad expanse of limitless waters, the cheerful throb of the machinery quickened again, upon the sea, the pleasant swish of the water against the ship greeted us once more; life, movement and gaiety sprang out again on board, and in an instant the entire steamer had burst into laughter and chat and song."

*St. Mary's River*, which links this strange, mysterious upper sea with the lower lakes, is not devoid of charm and beauty. "We fully realize," says School-

craft, "the justice of the remark made by Carver that the entrance into Lake Superior affords one of the most pleasing prospects in the world. It presents a scene of beauty and magnificence which is rarely surpassed, even amidst the rugged scenery of the north. The river St. Mary's issues from a deep bay of the lake and passes out between two high promontories, called Point Iroquois and the Grand Cape." The St. Mary's is a noble and broad river, but the channel is narrow, crooked and beset with dangers to all but the most skillful pilots. Rocks that are visible and rocks that are hidden are both numerous. After the exciting part of the voyage is ended the river broadens into almost lake-like width, and innumerable beautiful islands deck its surface. The river ends in Potoganissing bay, and that, in turn, leads into Lake Huron. In the following verses John M. Talman beautifully records his impressions of "St. Mary's River."

The workmanship of Nature's hand  
No rarer gem than this has shown;  
The glamor soft of fairy land  
Upon this luring realm is thrown.  
On boulder vast and current swift  
The first gleams of the morning quiver,  
While in a dreary calm I drift  
Adown St. Mary's shining river.

In power, in stateliness and pride,  
Majestic ships the waters brave,  
As on and ever on they glide  
To crown with sail the Huron's wave.  
The matin glow, the noontide blaze,  
The fiercely swirling eddies shiver;  
The peace of old Arcadian days  
Surrounds St. Mary's beauteous river.

The devious lines of tree-clad shore  
To shapes of wondrous grace are bent,  
And flashing waters onward pour,  
With thickly verdured isles besprent.  
Sweet messages of amity  
Shore, isle and stream to lake deliver;  
A houseless Venice seems to be  
Upon St. Mary's mighty river.

*Beauteous Mackinac.*—The meed of praise and popularity has been bestowed by the traveler in a most eminent degree upon the isle of Mackinac, rich in historical

associations, and ideal in beauty. A local poet thus sings:

Beauteous isle! I sing of thee,  
Mackinac, my Mackinac;  
Thy lake-bound shores I love to see,  
Mackinac, my Mackinac.  
From Arch Rock's height and shelving steep  
To western cliffs and Lover's Leap,  
Where memories of the lost one sleep,  
Mackinac, my Mackinac.

Thy shore once trod by British foe,  
Mackinac, my Mackinac;  
That day saw gallant Holmes laid low,  
Mackinac, my Mackinac.  
Now Freedom's flag above thee waves,  
And guards the rest of fallen braves—  
Their requiem sung by Huron's waves—  
Mackinac, my Mackinac.

Mackinac Island lies like a broken link between upper and lower Michigan. Around it meet the waters of the two great lakes, Huron and Michigan, whose level is 581 feet above the sea. The island has sufficient area to cause a journey of nine miles in skirting its shores, yet we may practically walk all over it in a day. It is shapen as if it had been made square, and then some giant force had pulled each of its corners a little away. It rises sheer above the translucent waters, a great plateau, 200 to 300 feet in height, wooded luxuriantly and framed with a broad white beach. Its sides are cliffs, and many of them have detached or semi-detached bits that take the form of pinnacles or half-ruined Gothic towers.

"The natural scenery of the Island of Mackinac," says Julian Ralph, "is unsurpassed. Nature seems to have exhausted herself in the clustered objects of interest which everywhere meet the eye. The lover of Nature may wander through the shaded glens, and climb over the rugged rocks of this island for weeks, and even months, and never grow weary; for each day some new object of beauty and interest will attract his attention. As you approach the island it appears a perfect gem. A finer subject for an artist's pencil could not be found. In some places it rises almost perpendicularly from the very water's edge to the height of 150 feet, while in others the ascent is



gradual. Parts of the island are covered with a small growth of hard-wood trees—beach, maple, iron-wood, birch, etc.—while other parts abound in a rich variety of ever-green, among which spruce, arbor-vitae, ground-pine, white-pine, balsam and juniper predominate."

Henry R. Schoolcraft, who first visited the island in 1820, wrote that "Nothing can exceed the beauty of this island. It is a mass of calcareous rock, rising from the bed of Lake Huron, and reaching an elevation of more than 300 feet above the water. The waters around are purity itself. Some of its cliffs shoot up perpendicularly, and tower in pinnacles, like ruined Gothic steeples. It is cavernous in some places; and in these caverns the ancient Indians, like those of India, have placed their dead. Portions of the beach are level, and adapted to landing from boats and canoes. The harbor at its south end is a little gem; vessels anchor in it, and find good holding. The little, old-fashioned French town nestles around it in a very primitive style. The fort frowns above it, like another Alhambra, its white walls gleaming in the sun.

"The whole area of the island is one labyrinth of curious little glens and valleys. Old green fields appear, in some spots, which have been formerly cultivated by the Indians. In some of these there are circles of gathered-up stones, as if the Druids themselves had dwelt here. There are walks and winding paths among its little hills, and precipices of the most romantic character. And whenever a visitor gets on eminences, overlooking the lake he is transported with sublime views of the illimitable and magnificent water prospect. If the poetic muses are ever to have a new Parnassus in America, they should fix on Michilimackinac. Hygeia, too, should place her temple here, for it has one of the purest, driest, clearest and most healthful atmospheres."

The scenery is romantic in the extreme, and it has four natural curiosities, either one of which would give a reputation to any ordinary island. Arched Rock faces the north, and rises from the water to the height of nearly two hundred feet, present-

ing from the water a superb piece of wave-formed architecture; and appearing as you look through it from the summit, like the gateway to a new world. Robinson's Folly, also on the north shore, is a picturesque bluff, which obtained its name from a resident who erected a summer-house on the summit of the bluff in question. He was laughed at for his pains, and was warned by the cautious traders and Indians not to spend too much time on the cliff, and especially not to visit it when the wind was blowing. He scorned the advice, and, to show his independence, frequently spent the night in his eyrie. On one occasion, however, in the darkness of midnight, a thunder-storm passed over the island, and at sunrise on the following morning the "cabin on the cliff" and its unfortunate inmate were buried in the deep. Hence the name of Robinson's Folly. Another interesting spot is the Cave of Skulls. It lies on the western shore, and is mainly distinguished for its historical associations. More than a hundred years ago, according to one tradition, a party of Sioux Indians, pursued by the Ottawas, secreted themselves in this cave: and when they were discovered, which happened soon to be the case, the Ottawas built a fire before the entrance of the cave, which they kept up for several days, and when they finally entered the gloomy chamber, their enemies were all dead. Another Mackinac curiosity is called the Needle, a lighthouse-looking rock, which overlooks the entire island, and throws its shadow upon the ruins of Fort Holmes.

*St. Clair Flats.*—Another charming type of lake beauty is found in all perfection in Lake St. Clair. To the person making his first trip up stream the St. Clair ship canal has a strangely curious appearance. It is over a mile in length, and is lined on either side by a row of willows. On each end of the north bank a lighthouse is built. At some little distance out in the lake, to the north, are two more lighthouses, which mark another and older channel. All the tonnage passing through the chain of lakes makes use of this canal, so it is one of the most important points along the entire system.







NIAGARA FALLS

After slowly passing through the canal the steamer enters St. Clair river, with its famous Flats, composed of thousands of acres partly submerged land. No finer hunting and fishing grounds are to be found in the world than around here. There are three natural channels, all deep and wide enough to be navigable to the largest vessels, flowing through the Flats. From these radiate a myriad of tiny channels, along which only a row boat propelled by a skillful hand can go. The water is as clear as crystal everywhere, and what at first view might be taken for an unhealthy marsh, is, in fact, a sweet-scented, healthy meadow, over-abundantly supplied with pure rippling streams. Not so long ago a human habitation was unknown to the Flats. Then Detroit began to assume metropolitan airs, and the many wealthy citizens who wanted a summer resort and watering place right at their doors, built along the center or main channel pretty residences. The fame of the St. Clair Flats becomes more widespread every year.

A few short years ago Nature reigned supreme, and the sedgy solitude of the rippling waters remained undisturbed save by the cry of the wild fowl or the splash of the leaping fish. The red man punted his canoe in wild abandon and hunted and fished untrammelled by the march of commerce. The inventive genius of mankind changed the reign of Nature with a magic wand, and where the azure waters leaped and danced in reckless freedom there now rises in gorgeous beauty what has been appropriately called the Venice of America. Summer homes whose varied styles of architecture contrast pleasingly with one another and the romantic surroundings; commodious club-houses and hotels that adorn this rapidly-growing rival of the "Queen of the Adriatic," stretch the whole length of the route, and upon which the architect has lavished his skill in designing in rare and artistic fashion. The green-carpeted lawns are embellished with lovely flower beds, and under the rich-hued emerald foliage of spreading willows rest rustic couches where one may sit and drink deep draughts of invigorating ozone.

*The Beautiful Belle Isle* on the broad bosom of the Detroit river, has been aptly called the playground of Detroit's people. It covers about seven hundred acres, and a few years ago was purchased by the city at a cost of about two hundred thousand dollars. It has been highly improved, and it is doubtful if any consideration would induce the people to part with it. At the upper end of the island is the stone lighthouse, erected by the government to mark the channel.

*Put-in-Bay*, associated as it is with the battle of Lake Erie, possesses rare scenic beauty, besides its historic and other attractions, and about it cluster other isles of Lake Erie which make the locality a favorite haunt of the tourist. It is one of the best known and most attractive summer resorts on Lake Erie.

#### NIAGARA FALLS.

The marvels of Niagara Falls have excited the admiration and won encomiums from the world's great master minds in the fields of literature, science and art for generations past. It would be idle here to attempt a new description, but it is not inappropriate to cull a few expressions made by writers and thinkers whose names are hallowed in human history.

Father Louis Hennepin, in his "New Discovery," published in 1697, gives this description: "Betwixt the Lakes Ontario and Erie there is a vast and prodigious cadence of water, which falls down after a surprising and astounding manner; insomuch that the universe does not afford its parallel. 'Tis true, Italy and Suedland boast of some such things, but we may well say they are but sorry patterns when compared with this of which we now speak. At the foot of this horrible precipice we meet with the river Niagara, which is not above a quarter of a league broad, but is wonderfully deep in some places. It is so rapid above this descent that it violently hurries down the wild beasts while endeavoring to pass it to feed on the other side, they not being able to withstand the force of its current, which inevitably casts them headlong, above six hundred feet high. This wonderful down-

fall is compounded of two great cross streams of water and two falls, with an isle sloping along the middle of it. The waters which fall from this horrible precipice do foam and boil after the most hideous manner imaginable, making an outrageous noise, more terrible than that of thunder, for when the wind blows out of the south their dismal roaring may be heard more than fifteen leagues off. The rebounding of these waters is so great that a sort of cloud arises from the foam of it which is seen hanging over this abyss, even at noon-day, when the sun is at its height. In the midst of summer, when the weather is hottest, they rise above the tallest firs and other great trees which grow on the sloping island which makes the two falls of water that I spoke of."

Anthony Trollope, the famous English novelist, pays this tribute: "Of all the sights on this earth of ours which tourists travel to see—at least of all those which I have seen—I am inclined to give the palm to the Falls of Niagara. I know no other one thing so beautiful, so glorious and so powerful."

William Cullen Bryant thus translated the lines of José Maria Heredia, a Cuban poet:

Thou flowest on in quiet, till thy waves  
Grow broken midst the rocks; thy current then  
Shoots onward like the irresistible course  
Of Destiny. Ah, terribly they rage,—  
The hoarse and rapid whirlpools there! My brain  
Grows wild, my senses wander, as I gaze  
Upon the hurrying waters; and my sight  
Vainly would follow, as toward the verge  
Sweeps the wide torrent. Waves innumerable  
Meet there and madden,—waves innumerable  
Urge on and overtake the waves before,  
And disappear in thunder and in foam.

They reach, they leap the barrier,—the abyss  
Swallows insatiable the sinking waves. " "  
A thousand rainbows arch them, and the woods  
Are deafened with the roar. The violent shock  
Shatters to vapor the descending sheets.  
A cloudy whirlwind fills the gulf, and heaves  
The mighty pyramid of circling mist  
To heaven.

The pen of Nathaniel Hawthorne, emi-

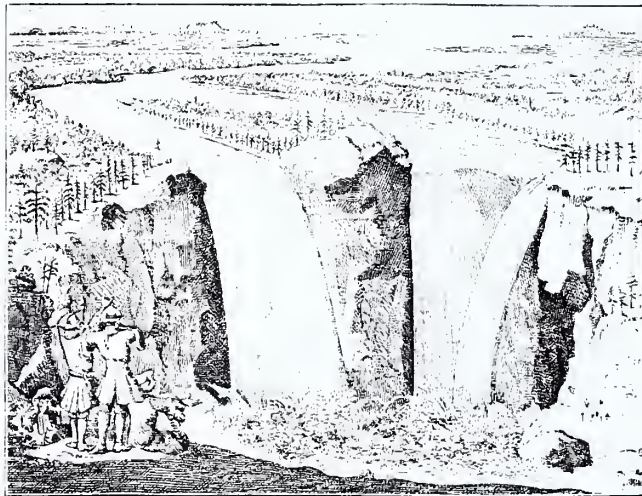
nent in American letters, thus records the vivid impressions of that author: "I sat upon Table Rock and felt as if suspended in the open air. Never before had my mind been in such perfect unison with the scene. There were intervals when I was conscious of nothing but the great river rolling calmly into the abyss, rather descending than precipitating itself, and acquiring tenfold majesty from its unhurried motion. It came like the march of Destiny. It was not taken by surprise, but seemed to have anticipated, in all its course through the broad lakes, that it must pour their collected waters down this height. The perfect foam of the river, after its descent, and the ever-varying shapes of mist, rising up to become clouds in the sky, would be the very picture of confusion, were it merely transient, like the rage of a tempest. But when the beholder has stood awhile, and perceived no lull in the storm, and considers that the vapor and the foam are as everlasting as the rocks which produce them, all this turmoil assumes a sort of calmness. It soothes, while it awes the mind."

Bayard Taylor says: "I have seen the Falls in all weathers and in all seasons, but to my mind the winter view is most beautiful. I saw them first during the hard winter of 1854, when a hundred cataracts of ice hung from the cliffs on either side, when the masses of ice brought down from Lake Erie were together at the foot, uniting the shores with a rugged bridge, and when every twig of every tree and bush on Goat Island was overlaid an inch deep with a coating of solid crystal. The air was still, and the sun shone in a cloudless sky. The green of the fall, set in a landscape of sparkling silver, was infinitely more brilliant than in summer, when it is balanced by the trees, and the rainbows were almost too glorious for the eye to bear. I was not impressed by the sublimity of the scene, nor even by its terror, but solely by the fascination of its wonderful beauty. With each succeeding visit Niagara has grown in height, in power, in majesty, in solemnity; but I have seen its climax of beauty."

William C. Richards wrote for *Harper's Magazine* as follows:







NIAGARA FALLS.

Facsimile of first engraving. From Hennepin's "New Discovery," published in 1697.



TERRAPIN TOWER.

(Built at Niagara Falls in 1833, destroyed in 1873.)

Oh! I could gaze forever on thy face,  
 Unwearied still thou matchless waterfall,  
 Whose twining spells of majesty and grace  
 My ardent sense bewilder and enthrall.

\* \* \* \* \*

I must go back where tides of Commerce flow,  
 And the dull roar of traffic cleaves the air;  
 But in my heart sweet memories still shall glow,  
 And to my slumbers summon visions fair.

Niagara! thou wilt freshen all my thought,  
 And cool the breath of fervid hours for me;  
 My days shall lapse with thy remembrance fraught,  
 Thy voices chant my nights' sweet lullaby.

Great Torrent! speed thee to the lake and sea,  
 With tireless smoke of spray and thunderous roar;  
 I bless my God, for all thy joy to me,  
 Though I should see thy marvelous face no more!

In the writing of Nathaniel P. Willis is found this graphic description: "The Rapids are far from being the least interesting feature of Niagara. There is a violence and a power in their foaming career, which is seen in no phenomenon of the same class. Standing on the bridge which connects Goat Island with the Main, and looking up toward Lake Erie, the leaping crests of the Rapids form the horizon, and it seems like a battle-charge of tempestuous waves animated and infuriated against the sky. No one who has not seen this spectacle of turbulent grandeur can conceive with what force the swift and overwhelming waters are flung upwards. The rocks, whose soaring points show above the surface, seem tormented with some supernatural agony, and fling off the wild and hurried waters, as if with the force of a giant's arm. Nearer the plunge of the Fall, the Rapids become still more agitated; and it is almost impossible for the spectator to rid himself of the idea that they are conscious of the abyss to which they are hurrying, and struggle back in the very extremity of horror. This propensity to invest Niagara with a soul and human feelings is a common effect upon the minds of visitors, in ever part of its wonderful phenomena. The torture of the Rapids, the clinging curves with which they embrace the small rocky islands that live amid the surge, the sudden calmness at the brow of the cataract, and the infernal

writhe and whiteness with which they reappear, powerless from the depths of the abyss, all seem, to the excited imagination of the gazer, like the natural effects of impending ruin, desperate resolution, and fearful agony, on the minds and frames of mortals."

Edwin Arnold, the noted English critic, thus wrote of the Falls: "Before the balcony in which this is written, the great cataract of America is thundering, smoking, glittering with green and white rollers and rapids, hurling the waters of a whole continent in splendor and speed over the sharp ledges of the long, brown rock by which Erie, 'the Broad' steps proudly down to Ontario, 'the Beautiful.' Close at hand on our left—not, indeed, farther removed than some six hundred or seven hundred yards—the smaller, but very imposing American Fall speaks with the louder voice of the two, because its coiling spirals of twisted and furious flood crash in full impulse of descent upon the talus of massive boulders heaped up at its feet. The resounding impact of water on rock, the clouds of water-smoke which rise high in air, while the river below is churned into a whirling cream of eddy and surge and backwater, unite in a composite effect at once magnificent and bewildering. But if you listen attentively you will always hear the profound diapason of the great fall—that surnamed the Horse-shoe—sounding superbly amid the loudest clamor and tumult of its sister, a deeper and grander note; and whenever for a time the gaze rests with inexhaustible wonder upon that fierce and tumultuary American fall, this mightier and still more marvelous Horse-shoe steals it away again with irresistible fascination. Full in front lies that wholly indescribable spectacle at this instant. Its solemn voice—an octave lower than the excited, leaping, almost angry cry of fervid life from the lesser cataract—resounds through the golden summer morning air like the distant roar from the streets of fifty Londons all in full activity."

President James A. Garfield visited the Falls, when a young man, in 1853, and in the following letter to his brother voiced his impressions of the great masterpiece of

nature: "I am now leaning against the trunk of an evergreen tree on a beautiful island in the midst of Niagara's foaming waters. I am alone. No breath of wind disturbs the leaves of evergreen which hang mute and motionless around me. Animated nature is silent, for the voice of God, like the 'sound of many waters,' is lifted up from the swathing clouds of hoary foam that rest upon the dark abyss below.

'Oh, fearful stream,  
How do thy terrors tear me from myself  
And fill my soul with wonder.'

"I gaze upon the broad green waters as they come placid and smooth, like firm battalions of embattled hosts, moving in steady columns, till the sloping channel stirs the depths and maddens all thy waters. Then with angry roar the legions bound along the opposing rocks, until they reach the awful brink, where, all surcharged with frantic fury, they leap bellowing down the fearful rocks, which thunder back the sullen echoes of thy voice, and shout God's power above the cloudy skies! O man! Frail child of dust thou art to lift thy insect voice upon this spot where the Almighty thunders from the swelling floods that lift to heaven their hoary breath, like clouds of smoking incense. O, that the assembled millions of the earth could now behold this scene sublime and awful, and adore the everlasting God, whose fingers piled these giant cliffs, and sent his sounding seas to thunder down and shout in deafening tones, 'We come from out the hollow of His hand, and haste to do his bidding.'"

One more description will be reproduced, that of Charles Dickens. The popular novelist says: "Then, when I felt how near to my Creator I was standing, the first effect, and the enduring one—instant and lasting—of the tremendous spectacle was Peace. Peace of Mind, tranquillity, calm recollections of the Dead, great thoughts of Eternal Rest and Happiness, nothing of gloom or terror. Niagara was at once stamped upon my heart, an Image of Beauty; to remain there, changeless and indelible, until its pulses cease to beat, for ever. Oh, how the strife and trouble of

daily life receded from my view, and lessened in the distance, during the ten memorable days we passed on that Enchanted Ground! What voices spoke from out the thundering water; what faces, faded from the earth, looked out upon me from its gleaming depths; what Heavenly promise glistened in those angel's tears, the drops of many hues, that showered around, and twined themselves about the gorgeous arches which the changing rainbows made! I think in every quiet season now, still do those waters roll and leap, and roar and tumble, all day long; still are the rainbows spanning them, a hundred feet below. Still, when the sun is on them, do they shine and glow like molten gold. Still, when the day is gloomy, do they fall like snow, or seem to crumble away like the front of a great chalk cliff; or roll down the rock like dense white smoke. But always does the mighty stream appear to die as it comes down, and always from its unfathomable grave arises that tremendous ghost of spray and midst, which is never laid; which has haunted this place with the same dread solemnity since Darkness brooded on the deep, and that first flood before the Deluge—Light—came rushing on Creation at the word of God."

#### THE THOUSAND ISLANDS.

The Thousand Islands of the St. Lawrence river begin near Kingston, and extend down the river a distance of about fifty miles. They form the most numerous collection of river islands in the world, the part of the river containing them being sometimes called the Lake of the Thousand Islands. The islands vary in size from a spot not larger than a good sized row boat to a tract of land several miles in circumference, the largest island being about eighteen miles in length. Many of these islands are guarded by rocks and crags of varied and even fantastic appearances, which rise to a considerable height above the level of the water. They number 1,692, and in the summer season their rich foliage hangs over the water, furnishing many nooks and corners and bays and open spaces of the greatest imaginable picturesqueness and



beauty. The intertwinings and intricacies of these waters are thus described by a traveler who descended the St. Lawrence river in 1819: "Loch Lomond, with her two dozen islands, has sheltered the manufacturers of 'peat reek' from the scent of the revenue officers; but this Lake of the Thousand Islands must be the very paradise of smugglers, should such a trade ever become profitable in Upper Canada—and a hopeless business it will be for the excisemen who are sent to ferret them out."

The trees on these islands are mostly cedar, with here and there a fir rearing its lofty head, and as these firs usually grow on rocks which are comparatively treeless, they present an unusually picturesque appearance. Formerly water-fowl abounded in these then quiet haunts, and occasionally a majestic eagle was to be seen soaring aloft, looking down upon the earth as if attempting to determine on which side of the boundary line between the two countries he was in duty bound to alight. This boundary line was accurately determined by commissioners appointed for that purpose in 1818, and it was by them that the number of islands was accurately counted.

In 1831-32, Henry Tudor, barrister-at-law, made a tour of this river, and in his published narrative gave the following description of the Thousand Islands: "Nothing can be imagined more lovely and picturesque than winding your constantly meandering course through this verdant labyrinth. All the endless varieties of shape, color, height, size and contour are exhibited in every changed appearance. Their forces, indeed, are as diversified as their numbers. Some of them, covered with a rich, green sward, repose on the stream so nearly level with it, as if floating down upon its bosom. Others elevate their summits in bold, perpendicular ascents, crowned with the most luxuriant foliage; and here and there is seen an islet formed of fantastic rocks piled on each other, and contrasting their rugged and barren surface with the smiling verdancy of the rest. On some few of these fairy islands you perceive a cottage, or a log house, rearing its simple structure amid this landscape of loveliness

and silent beauty, and affording a relief in the symptoms of human existence which it offers to the otherwise unbroken that reigns around. On another side you see a natural terrace, or a glade, peeping forth from its half concealed position in a wood, while the transparent water casts back from its placid current the rocks and trees by which it is overshadowed."

Xavier Mamier, in 1850, wrote as follows of the St. Lawrence: "There is probably no river on earth that has heard so many vows of love as the St. Lawrence, for there is hardly a Canadian boatman that has ever passed up or down the river without repeating, as the blade of his oar dipped into the stream and as it arose, the national refrain:

Il y a longtemps que je l'aime,  
Jamais je ne l'oublierai ! \*

"No, surely these can not be the Isles of Greece, with their mantle of light and their balmy fruits—the poetic isles that inspired the song of Homer and crowned with flowers the brow of Anacreon—the voluptuous isles which bore the immortal Paphian beauty, the alma mater of Lucrece that intoxicated to death the senses of Sappho. No, this is neither Rhodes that still appears before my eyes, nor Cyprus, that I long to see again, nor Lemnos. These are more captivating and sweeter still.

"It seems as though a fairy, a friend of man, caught a Titania from the North, had in its sport with Ariel, scattered all these islands upon this mirror of the waves and these mysterious woods and mounts of verdure to awaken by their aspect thoughts of goodness with those who pass this way. What should be done in such a place of repose if not to dream?"

This beautiful region is far renowned as a most pleasant summer resort, and thousands visit the Thousand Islands from all parts of Canada and the United States, on pleasure, picnic and sporting excursions. These parties hire an elegant yacht or boat built at Kingston, and sail about for hours with their friends from island to island,

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\* I loved thee from the hour we met,  
And never can that love forget.

camp under the trees, shoot water fowl, catch fish, and amuse themselves in a thousand different ways.

Dr. J. G. Kohl visited these islands in 1854, and thus writes of them: "I was told by a gentleman that in his youth they were inhabited by Indians, remnants of the Iroquois or Six Nations, to whom the whole north of the State of New York belonged. These islanders were called Mississagua, a name that still occurs in various localities on the St. Lawrence. Their chief resided on one of the principal islands, and the rest were scattered about on the others in bark huts or tents."

*An Indian Legend.*—These islands for more than two centuries have been the scene of many historic events and legendary tales. Perhaps the most beautiful and popular of all the legends connected with this locality is that of Hiawatha, so well known to all lovers of American poetry, though not located among the Thousand Islands by Longfellow. It relates to the origin of the League of the Iroquois, entered into at a time of which no record gives the date.

"Hundreds of years ago, Ta-oun-ya-wat-ha, the Deity of the streams and fisheries, came down from his dwelling place in the clouds to visit the inhabitants of the earth. He had been deputed by the great and good Spirit, Ha-wa-ne-u, to visit the stream and to clear the channels from all obstructions, to seek out the good things of the country through which he intended to pass, that they might be the more generally disseminated among all good people of the earth—especially to point out to them the most excellent fishing grounds, and to bestow upon them other acceptable gifts. About this time two young men of the Onondaga nation were listlessly gazing over the same blue waters of the Lake of the Thousand Islands, and during their reverie they espied as they thought a single white speck, beautifully dancing over the bright, blue waters, and while they watched the object with the most intense anxiety, it seemed to increase in magnitude, and moved as if approaching the place where they were concealed, most anxiously awaiting the event

of the visitation of so singular an object, for at this time no canoes had ever made their appearance in the direction from which this was approaching. As the object neared the shore it proved in semblance to be a venerable-looking man, calmly seated in a canoe of pure white, very curiously constructed, and much more ingeniously wrought than those in use among the tribes of the country. Like a cygnet upon the wide blue sea, so sat the canoe of Ta-oun-ya-wat-ha upon the Lake of a Thousand Islands.

"As a frail branch drifts toward the rushing cataract, so coursed the white canoe the repelling waters, propelled by the strong arm of the god of the river. Deep thought sat on the brow of the gray-haired mariner; penetration marked his eye, and deep, dark mystery pervaded his countenance. With a single oar he silently paddled his light-trimmed bark along the shore, as if seeking a commodious haven of rest. He soon turned the prow of his vessel into the estuary of the 'double river,' and made fast to the western shore. He majestically ascended the steep bank, nor stopped till he had gained the loftiest summit of the western hill. Then serenely gazing around as if to examine the country, he became enchanted with the view, and drawing his stately form to its utmost height, he exclaimed in accents of wildest enthusiasm, Osh-wah-kee, Osh-wah-kee!"

"Approaching the two hunters, Ta-oun-ya-wat-ha gained their confidence, and drew from them a knowledge of the difficulties under which they labored; disclosed to them his spiritual nature, and the object of his mission. In the passage of the three up the river, they witnessed many things which could only be considered as miracles, and described as the wonders of Indian mythology. They ascended to the smaller lakes, Ta-oun-ya-wat-ha, placing all things in order for the sustenance and comfort of man, taught them how to cultivate corn and beans, not before grown by them, made the fishing grounds free, and opened to all the uninterrupted pursuit of game. He removed

\*Oswego, Oswego, meaning "I see everywhere and I see nothing."

all obstructions from navigable streams, and distributed the fruits of the earth among all mankind.

“Pleased with his success, he assumed the nature and habits of a man, and received the name, Hi-a-wat-ha (meaning very wise man), and fixed his residence on the shores of the beautiful Cross Lake. Upon the occasion of a hostile invasion he summoned a council of all the tribes from the East and from the West, and urged upon them the importance of uniting themselves into a league for their common defense. Next day they adopted and ratified the league of union which he advised. Having brought his council to a close, he arose, and in a most dignified manner addressed them, recounting what he had done for them, advised them not to admit other people into their confidence, and said: ‘Remember these words; they are the last which you will hear

from the lips of Hi-a-wat-ha. Listen, my friends, the Great-Master-of-Breath calls me to go. I have patiently awaited his summons. I am ready. Farewell.’

“Then were heard the joyful sounds of the most delightful singing voices, and amid the general confusion caused by the sweet melody of celestial music, and while all eyes were turned toward the heavens, Hi-a-wat-ha was seen seated in his white canoe majestically to rise higher and higher above the heads of the multitude until he was entirely lost to view, and the fascinating music became fainter, more plaintive and low, and died gradually away, as the wise man, Hi-a-wat-ha, the God-like Ta-oun-ya-wat-ha, vanished from their sight, in the same mysterious manner as that in which he had at first appeared, from the Lake of a Thousand Islands.”

## CHAPTER IV.

### DESCRIPTION.

LAKE SUPERIOR—ITS FEATURES—LAKE MICHIGAN—LAKE HURON—LAKE ERIE—LAKE ONTARIO—NIAGARA RIVER—NIAGARA FALLS—ITS RECESSION—RÉSUMÉ OF UNITED STATES SURVEY—MAGNITUDE OF THE LAKES—PHENOMENA—CHANGES IN LEVELS—LAKE UNDULATIONS—A LAKE MICHIGAN SEICHE—THUNDERSTORMS—PELLUCID WATERS—CLIMATE OF THE GREAT LAKES—TEMPERATURE OF LAKE WATER—WINDS—WATERSPOUTS—FOGS—ABERRATION OF SOUND—THE MIRAGE—HUMORS OF THE WIND—NAMES OF THE GREAT LAKES, ETC.—LENGTH OF THE ST. LAWRENCE SYSTEM.

The sea! the sea! the open sea!  
The blue, the fresh, the ever free.

*Bryan W. Procter.*

**L**AKE SUPERIOR is the largest body of fresh water on the globe, and is the highest and most western of the five Great Lakes. It is situated not far from the center of the continent of North America. The general form of this lake is that of a wide crescent with the outer curve toward the north. Its greatest length is from east to west, about 355 miles, and its greatest breadth is about 160 miles. Its area is about 32,000 square

miles. The depth is 1,000 feet, and the surface is very nearly 602 feet above the sea, hence the bottom is about 400 feet below the level of the Atlantic ocean. The surface of this lake is about 23 feet above that of Lake Michigan and Lake Huron, the greater part of this difference being in the river St. Mary's, which connects Lake Superior with Lake Huron. The largest river which empties into Lake Superior is the St. Louis, near its western end. Then from the north side may be encountered the Pigeon river, about three-fourths of the



way to Port Arthur; the Nipigon, which drains the lake of the same name, and which, together with the lake, is about 200 miles long; then Pie river, White river and Michipicoten. No rivers of large size enter it from the south.

In Minnesota, one of the branches of the Mississippi river approaches to within twenty miles of the western extremity of Lake Superior, and a small lake near the head of Albany river, the waters of which flow into Hudson Bay, is only four miles from a bay opposite the State islands on the northern shore, forming a route of but little portage, which route was long used by the Hudson Bay Company for the conveyance of goods from Lake Superior to the northern country.

There are not many islands in this lake, the largest being Isle Royale, forty-four miles long, the others being Michipicoten island, in the eastern part; Island St. Ignace, in the northern part, off the mouth of the Nipigon river; Grand island, between the Pictured Rocks and Marquette; Manitou island, east of Keweenaw Point, and the Apostle islands, a short distance north of Ashland. Keweenaw Point extends into the lake from the south side to a considerable distance.

The country around Lake Superior is bold and hilly, with the exception of the peninsula between it and Lake Michigan; but few of these hills rise above 1,000 feet. On the southern shore, 100 miles west of the Sault Ste. Marie, are the Pictured Rocks. These rocks are gray and red sandstone, from 100 to 200 feet high, in many places presenting fantastic figures, and marked by numerous stripes of yellow and red.

The boundary between the United States and Canada starts from the outlet of the lake into the Sault Ste. Marie, and sweeps northward so as to include in the United States the Isle Royale, which is but thirteen miles from the Canadian shore, and strikes inland from the mouth of Pigeon river, on the northwest shore.

The water of Lake Superior is remarkably pure, cold and transparent, and great waves sometimes arise with wonderful rap-

idity, for the reason that fresh water is more easily moved by the wind than salt water, and, on account of the coldness of the water, fogs are frequent at night, but vanish in the morning a short time after sunrise.

The rocks around this lake are very ancient, being principally of the Laurentian and Huronian systems, though overlaid in some places by patches of the Lower Silurian. The Huronian rocks are composed of conglomerates, green stone, shale, quartzite and limestone, and it is in these rocks that the vast deposits of useful minerals, for which the Lake Superior region is noted, are found. These minerals are principally copper and iron on the south side of the lake. The richest copper mines are near Keweenaw Point. The metal occurs principally native, and sometimes in single masses of great size, one piece having been found in 1853, which was 40 feet long and was estimated to weigh 400 tons.

A rich vein in an islet in Thunder bay, British side of Lake Superior, yielded silver in 1870-72 to the amount of \$1,230,000. Lead ore occurs in some places, but there is not much gold. The beds of red iron ore, or hematite, at Marquette, on the south side, are of remarkable extent.

*Lake Michigan* is the second in size of the five Great Lakes, and is the only one lying wholly in the United States. It is 320 miles long, 70 miles in mean width, and has an area of 22,400 square miles. Its surface is on a level with that of Lake Huron, 580 feet above the level of the sea, and its depth is 868 feet, so that the bottom of the lake is 288 feet below the level of the sea. By careful observations it has been found to have a lunar tide of about three inches. It receives the waters from numerous rivers and is connected by a canal with the Mississippi river. The three principal harbors on this lake are Chicago, Milwaukee and Grand Haven. Its bold and dangerous shores are lighted by nearly thirty light-houses, and its commerce is very extensive.

*Lake Huron* at its northern extremity receives the waters from Lake Superior through the Sault Ste. Marie, and also those of Lake Michigan through the Straits of



Mackinac. At the southern extremity its waters flow out through the St. Clair river, Lake St. Clair and the Detroit river into Lake Erie. Georgian Bay is separated from Lake Huron by the peninsula of Cabot's Head on the south and by the Manitoulin islands on the north, and north of these islands is Manitou bay, or the North channel. The entire width of Lake Huron, including Georgian Bay, is about 190 miles, and its length is about 250 miles. Its area is about 21,000 square miles. The elevation of its surface above the sea is 580 feet, and its average depth is about 802 feet, which makes the bottom of the lake down to 220 feet below the level of the sea. The level of its surface fluctuates several feet, which is the case with all the other lakes.

About 70 miles north of the outlet of this lake Saginaw bay sets back into the land a distance of about 60 miles, and behind its islands and shores vessels find a partial shelter from northwest and northeast storms. Thunder bay is a similar, but smaller, extension of the lake into the land on the west side and about 70 miles north of Saginaw bay. Twenty-eight miles farther north is Presque Isle, and here is another harbor, where the land turns toward the northwest, and a straight course is then open to Mackinac, 70 miles distant. Mackinac island is famous as a trading post and fort in the history of the northwest for its fur trade, and it is still of great importance on the lakes, having become of late years a noted summer resort. The harbor on the south side of the island is deep and well sheltered.

The shores of the Michigan side present few features of interest. The rock formations are sandstones and limestones from the Helderberg to the Carboniferous, but are of little importance. The forests are either a tangled growth of cedar, pine and spruce in swamps that it is difficult to penetrate, or a scattered growth of small trees on a sandy soil.

The principal streams from Michigan, which flow into Lake Huron are the Thunder Bay river, the Au Sable and the Saginaw, and, from Ontario, the French, the Muskoka, the Severn and the Nottawasaga, all

flowing into Georgian Bay, and the Saugeen, the Maitland and the Au Sable. The season of navigation on this lake is from about the first of May to December.

Besides Manitoulin island in the north part of Lake Huron are the Duck islands, Cockburn island and Drummond island, the latter two separating the lake itself from the North channel. Some distance east of Mackinac island is Bois Blanc island, the latter being directly north of Sheboygan, Michigan.

*Lake Erie* is the most southern of the five Great Lakes, which empty themselves by the St. Lawrence river into the Gulf of St. Lawrence. It separates Upper Canada on its north from New York, Pennsylvania, Ohio and Michigan on its east, south and west. At its southwest extremity it receives the waters of the three upper lakes, Superior, Huron and Michigan through the Detroit river, and at its northeast extremity it discharges its waters by the Niagara river into Lake Ontario. The Detroit is its largest tributary. Other rivers that empty their contents into it are the Grand river from the north; and from the west and south the Maumee, the Black, the Cuyahoga and the Grand, besides smaller streams. Lake Erie is 246 miles long, and varies from 30 to 60 miles in width. Its area is about 10,000 square miles. The surface of the lake is 573 feet above the level of the sea, and it is 210 feet deep. The bottom of this lake is, therefore, 363 feet above the level of the sea. On account of the shallowness of this lake, its navigation is peculiarly dangerous.

At its southwestern extremity it has several wooded and highly-cultivated islands, the largest of which is about 14 miles in circumference. One of its islands, opposite the city of Sandusky, was a noted prison for Rebel soldiers during the war of the Rebellion.

There is a species of clay, called Erie clay, which is one of the Pleistocene formations of the Laurentian lakes, and which occupies lowlands about Lake Ontario, Lake Erie, and the southern parts of Lakes Huron and Michigan. Like the till on which it rests, it contains pebbles and bould-

ders scratched and polished by glacial action; but unlike the till it is finely laminated. This Erie clay was deposited in a series of lakes which bordered the great Pleistocene ice sheet during its final retreat.

*Lake Ontario*, the lowest and the smallest of the five Great Lakes, lies between New York and Canada. The name, Ontario, in the Indian language, means beautiful. The lake is about 180 miles long from east to west, and its average breadth is about 35 miles. Its surface is 247 feet above the level of the sea, and its depth is 509 feet, so that the bottom of this lake is 262 feet below the level of the sea. The area of this lake is about 6,300 square miles.

The boundary line between the United States and Canada runs through the central portion of this lake from the mouth of Niagara river to the outlet of the lake at its northeastern extremity into the St. Lawrence river. By reason of its great depth this lake is less disturbed by storms than is Lake Erie, and its navigation is much less obstructed by ice. From observations made

by Professor Dewey it appears that there is no periodical rise and fall of its waters, the various elevations the surface assumes depending on

the rainfall and drainage. The greatest height usually occurs in February and the lowest in August, and the maximum difference is about four and a half feet.

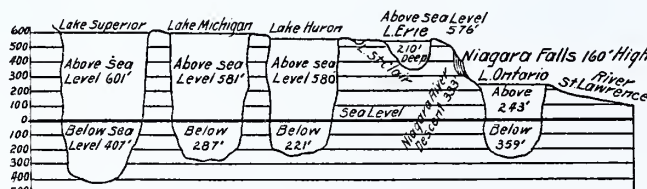
On the north side of this lake the land rises gradually from the shore, and spreads out into broad plains. A marked feature of the topography of the south side of the lake is what is known as the Lake ridge, or as it approaches the Niagara river, the Mountain ridge. This ridge extends from Sodus, in Wayne county, to the Niagara river, and it is distant from the lake from three to eight miles. Its elevation varies, being at its approach to the Niagara river about 350 feet above Lake Ontario. Sometimes the slope on each side toward the

north and south is so gradual that the line of the ridge is not easily discernible.

The Niagara river is of course the main feeder of this lake. Other rivers emptying into it are the Genesee, the Oswego, and the Black, from the south side, the Oswego being the natural outlet of most of the smaller lakes in Western New York. On the north side of Lake Ontario the rivers are the Trent, which after its passage through the hills, empties into the Bay of Quinte, a long inlet extending about 70 miles between the peninsula of Prince Edward, near the eastern extremity of the lake and the mainland, and a few smaller streams.

The largest island in this lake is at its mouth, and is named Amherst island. It is ten miles long and six miles wide. Lake Ontario is connected with Lake Erie by the Welland canal.

The following profile shows the depths of the five Great Lakes, as compared with each other, and as compared with the level of the Atlantic ocean, as compiled by United States engineers.



CROSS-SECTION OF GREAT LAKES.

The length of the basin occupied by the chain of five Great Lakes and by the valley of the St. Lawrence river, their outlet to the Atlantic

ocean, is about 2,000 miles. The amount of fresh water in all these lakes has been estimated at about 11,000 cubic miles, and is more than half of the entire amount of fresh water on the globe.

*Niagara Falls* stands pre-eminent among the waterfalls of the world. Their former, present and prospective condition have engaged the attention of many noted scientists and philosophers, and the possible consequences of their entire reduction, and the resulting changes to the Great Lakes above them, have excited the speculations and the apprehensions of many.

But Niagara flows on, as she has through unnumbered centuries. The thunder of her cataract still reverberates through her

gigantic chasms, and her ocean of waters still flows from Lake Erie to Lake Ontario, as it has from beyond the long past point of time, when first seen by human eye. No mark or monument had been erected to indicate the rapidity of the recession of the cataract, yet from general observation it has been estimated that from 1790 to 1840 this recession was about forty feet. Still this is only an approximation, and the precise rate of recession, except since 1842, remains unknown.

The oldest authentic historical account of the Falls is probably that of Father Louis Hennepin, who visited them for the first time with La Salle, in 1678. According to the rude sketch of the cataract as made by Hennepin, and his account and description of it, there was a projecting rock upon the west side of the river, which turned a portion of the water across the main fall. The language of Hennepin in describing the Falls is as follows:

"From the end, then, of this island (Goat island), it is that these great falls of water, as also the third but now mentioned, throw themselves, after a most surprising manner, down into a dreadful gulph 600 feet and more in depth. I have already said that the waters which discharge themselves at the cascade to the east fall with lesser force; whereas those to the west tumble all at once, making two cascades; one moderate, the other violent and strong, which at last makes a kind of crotchet or square figure, falling from south to north and west to east."

A copy of the sketch made by Father Hennepin is shown on another page.

In 1750 a Danish naturalist named Kalm, visited the Falls, but according to his description of them there was not at that time any third cascade. He corroborates Father Hennepin's account by telling us that the projecting rock which caused the third cascade had fallen a few years before his visit.

At the Falls at the present time the lower half of the rock is of soft shale, 80 feet in thickness, the limestone above being about the same thickness, while above is about 60 feet of thin bed limestone which form the rapids. These layers dip to the south at

the rate of about 25 feet to the mile, and the declivity in the bed of the river is about 15 feet to the mile from the Falls to Lewiston. It therefore follows that as the Falls recede there has been a less and less amount of shale above water owing to the dip, and to this must be added the declivity in the river bed, both together making about 40 feet to the mile. So that when the Falls shall have receded one mile further the surface of the river below the fall will stand at a point one-half way between the present surface of the water and the bottom of the limestone. Going on in this way for another mile 40 feet more of the shale would be taken away, and the surface of the river at the bottom of the Falls would be at the base of the limestone. From this time on the river will have a solid wall of limestone to wear away, and, unless the upper layer of limestone should continue as at present to wear away faster and preserve the form of rapids, the Falls would increase in height at the top while they were decreasing in height from the bottom, and thus at the distance of about two miles from their present location, instead of being 160 feet high as they are now, they would be only about 100 feet.

From this time on the recession would be very gradual, because the rock that the water will have to wear away will be hard limestone, and when the Falls have receded about four miles from their present situation there will be nothing but hard rock above the surface of the water below them, and hard beds above them will form rapids as before. This kind of meeting between the surface of the river below the Falls and the dip of the thick bed of limestone will be about 100 feet lower than the top of the present fall. The whole fall in the river at that time from Lake Erie to the point of junction between the limestone and water below the rapids will be about 160 feet. From this point to the outlet at Lake Erie the bed of the river will be occupied by nearly uniform soft layers, and after a portion of the limestone forming the rapids shall be worn away the descent will be equally distributed over the whole extent of sixteen miles, giving a uniform declivity of



about 10 feet to the mile, unless, because of the stream having no heavy blocks of stone to remove as it nears the outlet at Lake Erie, there should still be a fall of a few feet at the outlet of the lake over the limestone which there lies above the Onondaga salt group.

Thus Niagara river in the process of time will become either a continuous rapid stream from Lake Erie to Lewiston, or otherwise a rapid stream with a low fall at the outlet of Lake Erie; but whichever it may be there will be no difference in the great result. Lake Erie will be drained of a portion of its waters, the extent of the drainage depending more upon the wearing away of the layer of Helderberg limestone at its mouth than upon the recession and disappearance of Niagara Falls.

The above estimates have been based upon the theory that Niagara river will continue the outlet of Lake Erie. Should the uplift of the land from the northeast continue, as discussed in a previous chapter, and a new outlet formed through Chicago to the Mississippi valley, the recession of Niagara river will be checked long before it reaches Lake Erie.

In the year 1875 a survey of the crest lines was made by the corps of engineers of the United States army in connection with the United States lake survey, and in 1886 a survey of the crest was made by Prof. Robert S. Woodward, chief geographer of the United States geological survey. In 1890 the last survey was made under the direction of John Bogart, New York State engineer and surveyor, of the crest of the Falls as it was at that time. From these several surveys it has been possible to estimate with accuracy the recession of the Falls since the first survey made in 1842, by Prof. James Hall, then as now the State geologist of New York. The actual survey in 1890 was made by A. S. Kibbe, assistant engineer to Mr. Bogart.

The following extract is from Mr. Bogart's report, dated December 2, 1890: "The mean annual recession at both falls was much greater during the last four years than previously. This, however, was due to the fact that there was in January, 1889, a fall of considerable masses of rock.

The general result of the comparison between the lines of 1842 and 1890 is, in my opinion, a substantially correct record of the mean annual recession. It shows that at the American Falls there has been a mean recession of sixty-four one-hundredths feet (7 68-100 inches) yearly for forty-eight years, and at the Horseshoe Falls a mean recession of two and eighteen one-hundredths feet (2 feet 2 16-100 inches) yearly for forty-eight years.

"The American Falls show a mean total recession of thirty and seventy-five one-hundredths feet in forty-eight years. The Horseshoe Falls show a mean total recession of 104 51-100 feet in forty-eight years. The length of the crest line of the American Falls was 1,080 feet in 1842, and is 1,060 feet in 1890. The length of the crest line of the Horseshoe Falls was 2,260 feet in 1842, and is 3,010 feet in 1890. The total area of recession, or of rock which has disappeared, between 1842 and the present year, 1890, is, at the American Falls, 32,900 superficial feet, or seven hundred and fifty-five one-thousandths of an acre. The total area of recession between 1842 and the present year, at the Horseshoe Falls, is 275,400 superficial feet, or six and thirty-two one-hundredths acres."

In 1818 a mass of rock and earth 160 feet long and 30 feet wide fell from Table Rock, and in 1828 and 1829 two smaller pieces also fell. In April, 1843, a mass of earth and rock fell from Goat island, and in 1847 a slide of earth and gravel occurred just north of Biddle stairs, the area of the slide being 40 x 10 feet. The greatest downfall, however, occurred June 25, 1850, when the most of Table Rock itself fell into the abyss below, the portion falling being 200 feet long, 60 feet wide and 100 feet in depth. The noise caused by the fall was heard for many miles, and sounded much like distant thunder. The driver of an omnibus had just taken his horses for their midday feed, and was washing his vehicle on that part of the rock that fell. Hearing the preliminary cracking of the rock as it began to break loose, he hastened to solid ground, and was just in time to save himself from a fearful fall to death.



On February 7, 1877, an abrasion extended from the water's edge at Table Rock more than half the distance round the curve, about 1,500 feet, the mass varying from 50 to 100 feet. The contour of Horse-shoe Falls was greatly changed, and within three months another falling away occurred, extending about 200 feet toward Goat island.

*United States Survey.*—Accurate United States surveys of the Great Lakes were completed a few years ago. From these surveys it is shown that the elevation of the mean surface of Lake Ontario above the mean sea level is 246½ feet, that of Lake Erie is 572 feet, that of Lake Huron and Lake Michigan 581 feet, and that of Lake Superior 601 feet. Lake Superior's greatest depth is 1,008 feet and its mean depth 475 feet. Lake Huron has a maximum depth of 750 feet and a mean of 250 feet. Lake Erie has a maximum depth of 210 feet and an average of 70 feet. Lake Ontario has a maximum depth of 738 feet and a mean of 300 feet. The channel of the rivers connecting the lakes seldom exceeds the depth of 50 feet.

If the lakes could be drained to the level of the sea, Lake Erie would disappear, Lake Huron would be reduced to insignificant dimensions, Lake Michigan to a length of about 100 miles, with a width of 25 or 30 miles, while Lakes Ontario and Superior, with diminished areas, would still preserve the dignity of their present titles as Great Lakes.

Analysis shows no salt in water from the deepest part of Lake Superior. The beds of the lakes are clay in all places where the depth is over 100 feet. Lake Superior water at a depth of 200 feet and more stands at 39 degrees Fahrenheit. The mean annual rain and melted snow deposits in the lake basins are 29 inches in Superior, 30 inches in Huron, 32 inches in Michigan and 34 inches in Erie and Ontario, or 31 inches for the whole basin.

Lake Superior at St. Mary's river discharges 86,000 cubic feet per second, Lakes Michigan and Huron at St. Clair river 225,000, Lake Erie at Niagara 265,000, and Lake Ontario at St. Lawrence river 300,-

000 cubic feet per second. The volume of water in the lakes is 6,000 cubic miles, enough to supply Niagara Falls for 100 years.

Storm waves on the lakes range as high as 18 feet.

Over 200 streams flow into Lake Superior, and 800 more flow into the other lakes. These lakes contain over half of the area of fresh water on the earth. The water surface of the Great Lakes, with the land draining into it, presents the total drainage basin of over 270,000 square miles, divided as follows:

	AREA WATER SURFACE SQ. MILES.	AREA WATER SHED, SQ. MILES.	AREA OF BASIN, SQ. MILES
Lake Superior .....	31,200	51,600	82,800
St. Mary's River.....	150	800	950
Lake Michigan.....	22,450	37,700	60,150
Lake Huron.....	.....	.....	.....
Georgian Bay.....	23,800	31,700	55,500
St. Clair River.....	25	3,800	3,825
Lake St. Clair.....	410	3,400	3,810
Detroit River.....	25	1,200	1,225
Lake Erie.....	9,960	22,700	32,660
Niagara River.....	15	300	315
Lake Ontario.....	7,240	21,600	28,840
Total.....	95,275	174,800	270,075

*Magnitude of the Lakes.*—In a lecture delivered before the Franklin Institute, at Philadelphia, in June, 1896, John Birkenbine, the well-known engineer, said: "We are familiar with the expression, Great Lakes, but do not appreciate their magnitude. If Lake Superior be superposed on Pennsylvania and adjoining States, its eastern extremity (Whitefish Bay) can be placed at Sandy Hook, N. J., and Duluth, at its western end, would be found beyond Wheeling, W. Va., the greatest width of the lake corresponding closely with the north and south boundaries of Pennsylvania.

"If Lake Michigan be so placed that Philadelphia occupies this same relative position on its shores as Chicago, the northern end of the lake would extend to Montpelier, Vt., its width being practically the distance between Philadelphia and New York. Treating Lake Huron in a similar manner, and placing its southern extremity at Philadelphia, it would extend in a northern direction beyond Albany and Troy, N. Y., the foot of Georgian Bay corresponding with New Haven, Conn., that of Sag-

naw Bay being at Pottsville, Pa., while the Straits of Mackinac would approach Rochester, N. Y., the distance from the foot of the lake to the straits being practically that between Philadelphia and Pittsburg. Assuming Philadelphia as occupying the same position on the shore of Lake Erie as Buffalo, Pittsburg would correspond with the mouth of the Detroit river, and the distance across Lake Ontario from Watertown, N. Y., on the east, to Hamilton, Ont., on the west, is equal to that from Philadelphia to Cumberland, Maryland."

*Phenomena.*—Scarcely a surface phenomenon exists on the ocean that is not duplicated, though in less degree, upon the lakes. There are tides, waterspouts, fogs and thunderstorms, mirage and even icebergs. Many of these are not yet thoroughly understood, especially those relating to variations of water levels.

Emigrants from New England and New York destined for Cleveland and other points along the southern shore of Lake Erie, early in the century, found, after passing Buffalo, a clean beach of sand close to the water's edge. This they made use of as a road, and had but little difficulty in getting along, except in crossing the rivers and creeks. A few years later travelers along this route were surprised to find this sandy beach submerged by the waters of the lake, and they were again surprised, still later, to find this beach high and dry, the waters of the lake having receded. This was to the early emigrant a great mystery. It was due, in part, to the fact that in the rainy season the rivers carry more water into the lakes, than they do in a dry season. And the great chain of lakes may be regarded as one great river, the individual lakes being connected by short straits incapable of immediately discharging the surplus water, the surface of the lakes naturally rising in proportion to the amount of water discharged into them, and gradually falling as the dry season approaches. This is an annual movement, the rise occurring in June or July, and the low stage being reached in February or March. This annual rise and fall is comparatively easy to understand and to explain.

Besides these annual fluctuations there is what is called the "secular fluctuation," covering a series of years, these cycles being of equal duration. The difference in the height of the water from the time it is the highest to the time when it is the lowest, is about six feet nine inches, which is a very important matter, when its effect upon rivers and harbors is taken into account. There was a very low stage of water in 1819, from which year on until 1838 the water gradually rose, and in this year in Cleveland warehouse cellars were flooded to the depth of a foot. From 1838 to 1851 there was a gradual fall, except that in 1841 there was a slight rise. In 1854 the water was as high for a short time as it was in 1838.

The systematic observation of the level of the lakes commenced in 1859. At that time the water surface was 1.1 feet below the mean level for the months of June, July and August, 1838, and 3.4 feet above the mean level for June, July and August, 1847. The stage of water of 1859 has not been reached since then, but it has been approximated twice. In August, 1876, the water level reached a point only one-tenth of a foot below the level of August, 1859, and again in June, 1886, when it reached a point only one-twentieth of a foot below the level of August, 1859.

From 1859 to the spring of 1869 the course of the water level was down. In May, 1869, the water temporarily reached a point one-tenth of a foot below the mean low water of the summer of 1847. This was followed by a rapid rise of the water until August, 1871, after which time there was an equally rapid fall of the water until November, 1872, when the water reached a point three-tenths of a foot below the summer level of 1847, where it remained for about a month and a half. From January 1, 1873, to the middle of 1876 the water rapidly rose, and this was followed by a general fall until February, 1880, when the water was only about one-tenth of a foot above the level of 1847. From 1880 to 1886 the water steadily rose, reaching in the summer of the latter year the highest point since 1859. Since 1886 there has been a

general falling of the water. The level of the lakes depends in part upon the rainfall within the basin drained by them, and also upon the amount of evaporation and the outflow through the rivers. The rainfall and evaporation are seldom equal to each other in any given year, but yet the amount of rainfall is, of course, the principal factor in the lake level. The winter temperature is also an important factor in determining the height of water for the next summer, for if the snow that falls is melted throughout the winter and early spring the lakes are high at that time at the expense of the summer elevation, especially if the summer is a more than usually dry one. The outflow of the lake basin is slightly less than half the rainfall.

*Lake Undulations.*—For many years fishermen and sailors on the Great Lakes have noticed with interest and curiosity the peculiar, rapid changes in the water level at the head of shallow lagoons or bays. In order to investigate this phenomenon, F. Napier Denison, of the Toronto Meteorological Observatory, devised a simple instrument to record these movements and placed it at the mouth of the Humber river, near Toronto, in July, 1896, where interesting results have been obtained. Reference is made by Mr. Crosman in his valuable lake charts to these undulations as existing but not fully understood. In Europe the subject is by no means novel, having been observed as early as 1730, upon the Swiss lakes, where it obtained the name of "seiche," owing to the apparent "drying up," or recession of the water upon one side of the lake when rising at the other side.

From a careful study of these lake records in conjunction with the synoptic weather charts and sensitive barograph traces, the following points have been deduced: When the lake undulations become large and rapid, so do the atmospheric waves as recorded upon the barograph. That the lake level is never stationary; the smallest movements recorded were from one-half an inch to one inch.

The longitudinal and transverse "seiches," are due to great differences of atmos-

pheric pressure between the extremities of the lake, which are doubtless augmented when the gale strikes the surface of the water. They occur shortly before during and for several days after the passage of a severe storm. The average time interval of these movements for Lake Ontario is about four hours and forty-nine minutes and forty-five minutes, respectively.

The smaller undulations are due to the direct action of the atmospheric waves as they move over the surface of the lake, tending to form minute undulations upon the surface, and as they move further into a bay become magnified as they reach narrower and shallower portions of the bay, until finally they assume the proportions recorded on the instrument.

These undulations become rapid and of great amplitude during fine weather many hours before the approach of a storm from the Southern States, while on the other hand they are at a minimum preceding and during fine, settled weather.

*A Lake Michigan Seiche.*—The erroneously termed "tidal waves," encountered on Lake Erie especially, but upon all the lakes to a greater or less extent, are due to large and rapid atmospheric changes noticeable upon the barograph preceding or during thunder storms. One of the most violent seiches on Lake Michigan occurred on Friday morning, April 7, 1893, when the water in the port of Chicago suddenly rose four feet in a series of heavy waves. Great damage to the shipping resulted. Vessels were cast adrift without any of the headway necessary to make their rudders of service; there were many collisions. A heavy gale was blowing at the time, as is shown in the report of the event by H. C. Frankenhof, then Chicago's weather man. At the time of the wave, 1:30 a. m., the wind was coming in from the north-northeast at the rate of forty-three miles an hour. A paragraph from the report reads as follows: "The wave occurred between 1:30 and 1:45 a. m., April 7, and its height was from four to six feet. The damage done was principally to vessels anchored in the river. Several were torn from their moorings and carried toward the lake, causing numerous



collisions with other vessels. Some were carried out into the lake. \* \* \* The waves occur from time to time, and I have observed that they always occur at the time of a sudden and decided rise or fall in the barometer." This same wave was felt across the lake at St. Joseph, where it swept 700 feet back of the high-water mark.

A more complex seiche took place June 13, 1872, at Oswego. A government report describes it in part as follows: "Its period was from twenty to thirty minutes, and during its continuance a white squall passed to the north over the lake, accompanied by a small waterspout. An employe of the survey, who happened to be out on the lake, reported that he heard strange noises, and the fish rose to the surface as if stunned."

On September 28, 1895, Duluth experienced a sudden rise of about five feet. The event was spoken of as "a notable tidal wave." The real causes are to be found in the conditions which prevailed. A heavy gale was and had been blowing, varying in direction from northeast to southeast. Heavy rains had been falling over the greater part of Lake Superior. The barometer at Duluth was lower than that of the district to the east. It was inevitable, therefore, by virtue of all these causes, that the water should be forced toward the western end of the lake. Duluth is at the extremity of a narrow bay; the water came up as though through a mill race. Heavy property loss resulted.

Inasmuch as the wave was due mainly to the storm, it should properly have been called a storm wave. Wind was the prime factor in the disturbance; rain, barometric conditions and the other conditions acted as supplementary causes. The action of any one of these forces is frequent, but usually it has one or more of the others acting against it. Equilibrium thus is preserved. The chances are so greatly against a complete union or co-operation of all the meteorological forces that such waves as that at Duluth are rare.

"The fleet of vessels in winter quarters at Sheboygan, Wis.," said the *Marine Record* of January 27, 1898, "experienced a severe

shaking up on Monday last, occasioned by a tidal wave, the third of the season. The wave was caused by the northeast gale, and the water swept up the river in such great volumes that the harbor was turned into a small whirlpool. Ice from 12 to 16 inches thick was ground into chunks, and vessels were torn from their moorings. The schooner Mason crashed into the steamer Seymour, demolishing the latter's after cabin and losing her own jibboom and fore-rigging. The schooner Duval jammed into the steamer Wetmore and three schooners. Other vessels parted their lines and were tossed about, but were secured before any serious damage was done."

On Tuesday, April 25, 1854, says a newspaper account, a singular spectacle presented itself on Lake Erie, off Dunkirk, which was a convulsion of the waters, or great wave, preceding a storm on that lake, which was also noticed by several along the coast both above and below that harbor and on the high ground for some distance inland. It has been more extensively noticed on Lake Ontario than on Lake Erie, and is followed, almost immediately, by thunderstorms. Three of these convulsions had previously occurred, on September 20, 1845; January 8, 1847, and July 5, 1850, all of which were attended with like results, as that of the 25th of April above noted. These sudden changes of levels have been frequently noticed on all the lakes from earliest historical records.

A writer, in 1789, gives an account of a strange phenomenon which occurred that year at the Grand Portage: "The water withdrew, leaving the ground dry, which had never before been visible, the fall of the water being equal to four perpendicular feet, and rushing back with great velocity above the common mark. It continued thus rising and falling for several hours, the commotion gradually decreasing until it remained stationary at its usual height."

"Sudden gusts of wind spring up on the lake, and hence the oldest voyageurs are most inclined to hug the shore. Instead of seeking for a solution of these phenomena by a resort to natural causes, they ascribe them, like the Scandinavians of old, to the



freaks of a crazy old woman, who is endowed with ubiquity:

Now here, now there, and everywhere.

"Before the middle of September, a change in the elements becomes observable. The light and sportive breezes are succeeded by heavy gales, which sweep over the lake, and render coasting exceedingly hazardous."

*Thunderstorms.*—The storms which agitate the Lakes, though less violent than the typhoons of the Indian Ocean or perhaps than the hurricanes of the Atlantic, are still very dangerous to mariners; and, owing to the want of sea-room, and the scarcity of good harbors, shipwrecks are but too common, and frequently attended with much loss of life. A short, ugly sea gets up very quickly after the wind begins to blow hard, and subsides with equal celerity when the wind goes down.

"In a storm," said Uncle John, as quoted by Constance Fenimore Woolson in one of her breezy sketches, "navigation is more dangerous on our western lakes than on the ocean; there is not space enough for safety, and the short waves and narrow channels require more skill than the broad sweep of the ocean. There is always a lee-shore near, and you cannot run away from it as you can at sea."

"Thunderstorms of great violence are not unusual upon Lake Superior," says one of the early writers. "October and November," remarks the *Marine Review*, "are the months in which severe storms most frequently occur on the lakes. On Lakes Erie and Ontario, the wind usually commences at the southeast and works round through south to west and northwest, and the time of the hardest blow is usually when the barometer begins to rise as the wind gets around to the west. On Lake Huron and in Georgian Bay, the wind, though for the most part changing as on the lower lakes, not unfrequently changes with great suddenness, chopping after a lull from south-southeast to northwest, and blowing hardest, as a rule, from the northwest."

*Pellucid Waters.*—The waters of Lake Superior are marvelously clear, and even at mid-summer are exceedingly cold. "In pass-

ing along its rocky shores in my frail canoe," observes Laninan, "I have often been alarmed at the sight of a sunken boulder which I fancied must be near the top, and on further investigation have found myself to be upwards of twenty feet from the danger of a concussion; and I have frequently lowered a white rag to the depth of one hundred feet, and been able to discern its every fold or stain. The color of the water near the shore is a deep green, but off soundings it has all the dark blue appearance of the ocean. The sandy shores are more abrupt than those of any body of water I have ever seen; and within a few feet of many of its innumerable bluffs, it would be impossible for a ship to anchor.

"The natural harbors of this lake are not numerous, but on account of its extent and depth it affords an abundance of sea-room, and is consequently one of the safest of the great lakes to navigate. The only trouble is that it is subject to severe storms which arise very suddenly. Often have I floated on its sleeping bosom in my canoe at noonday and watched the butterfly sporting in the sunbeams; and at the sunset hour of the same day have stood in perfect terror upon the rocky shore gazing upon the mighty billows careering onward as if mad with a wild delight, while a wailing song, mingled with the 'trampling surf,' would ascend to the gloomy sky."

"An interesting, and very sad thing about Lake Superior," says W. S. Harwood in *St. Nicholas*, "is that it never gives up its dead. Whoever encounters terrible disaster—happily infrequent in the tourist season—and goes down in the angry, beautiful blue waters, never comes up again. From those earliest days when the daring French voyageurs, in their trim birch-bark canoes, skirted the picturesque shores of this noble but relentless lake, down to this present moment, those who have met their deaths in mid-Superior still lie at the stone-paved bottom. It may be that, so very cold is the water, some of their bodies may have been preserved through the centuries. Sometimes, not far from the shore, the bodies of people who have been wrecked from fishing-smacks or from pleasure boats

overtaken by a cruel squall have been recovered, but only after the most heroic efforts with drag-net or by the diver. Once, on a trip down the lakes I met a clergyman who, as we passed a point of land some miles before entering the narrowing of the lake at the Soo, pointed out the place where the ill-fated 'Algoma' went down on the reef some eight years ago; and as he looked, he said slowly: 'I was at the funeral of one man who went down with her, and the only reason his body is not at the bottom to-day, with the other thirty-eight that were lost, is because it was caught in the timbers of the vessel and could not sink.'"

#### CLIMATE OF THE GREAT LAKES.

A bulletin prepared by Prof. Henry A. Hazen, under the direction of Willis L. Moore, chief of weather bureau, on "The Climate of the Great Lakes," was issued in the fall of 1897. From the records of the weather service stations, extending back in many instances to November, 1870, a number of interesting meteorological tables have been compiled.

The following table gives the mean temperature at lake stations by months:

	Jan.	Feb.	March.	April.	May	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
Alpena.....	18	18	24	37	49	60	65	64	57	45	33	25	41
Buffalo.....	24	24	30	42	54	65	70	68	62	50	38	30	46
Chicago.....	24	27	34	46	56	66	72	71	64	52	38	30	48
Cleveland.....	26	28	33	46	58	68	72	70	64	52	40	31	49
Detroit.....	24	26	32	46	58	68	72	70	63	51	38	30	48
Duluth.....	10	15	24	38	48	58	66	65	56	45	30	18	39
Erie.....	27	27	32	44	57	67	71	69	63	52	41	33	49
Escanaba.....	14	15	22	36	49	61	67	64	56	45	32	22	40
Grand Haven.....	24	25	30	41	54	64	69	67	61	50	37	30	46
Green Bay.....	15	17	27	44	55	67	70	67	60	47	32	24	44
Marquette.....	16	17	23	37	49	59	65	64	57	45	31	23	41
Milwaukee.....	19	23	30	43	53	63	69	68	61	49	35	26	45
Oswego.....	24	24	30	42	54	64	69	68	62	50	39	21	46
Port Huron.....	22	23	29	42	53	64	69	67	61	49	37	28	45
Rochester.....	24	24	30	44	56	66	70	68	62	50	38	29	47
Sandusky.....	27	29	34	47	59	69	73	71	65	53	41	32	50
Toledo.....	26	28	35	48	60	70	73	71	64	52	39	31	50
Huron, S. Dak.....	7	12	28	47	55	67	71	69	60	47	30	20	43

To the above table is added the mean monthly temperature at Huron for purposes of comparison, as it lies north of Milwaukee, but 500 miles from the lake. The lowest annual temperature is at Duluth and the

highest at Sandusky. The lowest monthly temperature is in January, 6°.8 at Huron, and the lowest on the lakes is 10°.3 at Duluth; the highest in January is 26°.5 at Sandusky. These figures show only very slightly the influence of the lake water in moderating the temperature.

*Temperature of Lake Water.*—The following table gives the temperature of the lake water approximately. This temperature was measured near the land and at some depth below the surface, thus giving an idea of the temperature near the surface at the center of the lake. At Chicago there is added the value at the crib some four miles from shore:

	Jan.	Feb.	March.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
Alpena.....	Frozen.	39	52	64	69	68	60	49	36	33			
Buffalo.....	35	36	47	49	63	72	71	67	57	43	36		
Chicago.....	34	34	38	44	54	60	67	71	65	56	42	35	50
Chicago Crib.....	33	33	34	41	49	57	65	68	64	54	44	35	48
Cleveland.....	34	34	35	44	55	66	74	72	68	59	45	35	52
Detroit.....	34	33	36	42	53	64	71	71	67	56	42	36	50
Duluth.....	34	34	35	38	40	52	59	63	56	49	39	34	44
Escanaba.....	Frozen	38	46	58	64	65	60	52	42	35			
Grand Haven.....		34	44	59	69	73	74	66	55	40	35		
Marquette.....	34	34	34	37	42	47	56	60	56	49	40	34	44
Milwaukee.....	33	34	36	42	49	54	61	65	60	50	41	35	47
Sandusky.....	35	35	39	48	60	69	75	73	67	58	43	39	53
Toledo.....	36	36	39	50	62	73	77	76	69	57	42	36	54

Among the deductions made by Professor Hazen is that the influence of lake water in lowering the temperature during the hottest part of the day is greatest at Chicago and Marquette. The tendency of the lake water to raise the lowest temperature of the day is particularly marked at Duluth, Escanaba, Marquette and Milwaukee. The deductions begin with March as the first month, the lake being frozen near the coast so as to prevent observations in January and February. It will be noted that the moderating effect of the lake temperature must be greatest to warm the air in January and February, though this effect in turn, is nearly *nil* on Lake Superior, as that body of water is entirely frozen over. There is a noteworthy effect at Grand Haven, where the mean lake temperature in each month is nearly as high as the highest air temperature; in fact, in August the lake

water is a very little warmer than the warmest during the day. A part of the warmth is owing to the shallowness of the east shore of the lake, thus permitting a stronger effect from the sun; also the current in the lake on the east shore is toward the north, which carries up the warmer waters of the south portion. In this connection it is noted that the general westerly winds over Lake Michigan moderate the temperature all along the center and south shores of Michigan. In fact, the climatic conditions are much more moderate than along the south shores of Lakes Erie and Ontario, though the latter are much farther south.

It should also be noted that on the south shore of Lake Superior there is a harmful effect produced in the spring by the abundance of ice in the lakes. This causes numerous frosts and very low temperature, which prevent planting until too late to mature the crop. The table shows a mean water temperature at Marquette in June 25° colder than at Toledo and 22° colder than at Grand Haven.

*Winds.*—Next to the temperature the

wind has the greatest influence upon the climate of the regions near the lake shores. As we have seen in the preceding discussion, a lake wind has a marked influence in raising the winter temperature, and in lowering the highest temperature of summer.

In January the prevailing direction of wind is southwest at Buffalo, Chicago, Detroit, Duluth, Erie, Port Huron, Sandusky and Toledo. It is west at Alpena, Escanaba, Marquette, Milwaukee and Rochester; south at Cleveland and Oswego; special, or from all directions, at Grand Haven.

In July the prevailing winds are southwest at Buffalo, Detroit, Grand Haven, Sandusky and Toledo; west at Alpena, Erie, Marquette, Oswego and Rochester; south and north at Cleveland and Escanaba; northeast and southwest at Chicago, Duluth and Port Huron; special, or from all directions, at Milwaukee.

The following table shows the total number of miles per month at each station. The low velocity at Duluth is due to the fact that there are bluffs to the westward and southward which break the force of the wind.

TOTAL WIND MOVEMENT.

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Alpena.....	7116	6973	7843	6990	6623	5655	5762	5576	6215	6873	7203	7328	80157
Buffalo.....	9425	8322	8572	6914	6490	5730	6047	5679	6353	7636	8936	9902	90006
Chicago.....	8580	8292	9449	9060	8535	6871	6940	6862	7668	8276	8472	8566	97571
Cleveland.....	8446	7605	8166	7070	6639	5834	5756	5606	6650	7730	8600	8750	86852
Detroit.....	7225	6865	7530	6952	6543	5426	5462	5176	5682	6607	7064	7376	77908
Duluth.....	5026	5236	5996	6222	5366	4528	4874	4919	5422	5750	5337	5342	63918
Erie.....	9166	8302	8618	7929	6888	5977	5896	5760	6800	7963	9341	9813	92453
Escanaba.....	6918	6410	7495	6996	6546	5983	5954	5765	6826	7632	6953	7090	80568
Grand Haven.....	8878	8207	8330	8166	7829	6242	6251	6033	7060	8504	8883	9260	94143
Green Bay.....	6072	6082	6687	6904	6953	5502	5144	5012	5621	6322	6372	6431	73102
Marquette.....	7188	6467	7010	6326	6118	5168	5430	5820	6867	7292	7169	7538	78393
Milwaukee.....	8818	8322	9294	8420	7784	6334	6267	6568	7222	8177	8483	8915	94604
Oswego.....	9097	8546	8716	7088	6240	5132	5340	5242	6021	7258	8481	8949	86110
Port Huron.....	8344	7851	8567	8069	7779	6111	6246	6100	6640	7627	8294	8614	90242
Rochester.....	8406	7781	8431	7370	6391	5798	5651	5265	5851	6672	7411	7957	83484
Sandusky.....	8780	8460	9559	8671	7752	6778	6522	6574	7208	8288	8917	8806	96335
Toledo.....	7220	6663	7701	7324	6503	5571	5377	5189	5646	6454	7031	7300	77979

In the next table is given the highest wind in each month, with the direction from which it blew, as reported from each station. The highest velocity ever ob-

served at any lake station in twenty-six years was ninety miles per hour from the southwest. This occurred at Buffalo, N. Y., on January 13, 1890, at 11:55 A. M.



during the prevalence of a very intense storm in Ontario with very steep gradients. The influence of topography upon the highest winds is clearly shown at Chicago and

Duluth, where seven of the highest winds in each month are from E or NE direction. At most of the stations the direction of maximum wind is from some westerly point.

#### HIGHEST WIND VELOCITY AND DIRECTION.

	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
Alpena.....	W 48	S. E. 48	N. W. 50	N. W. 49	S. W. 43	W. 48	S. W. 60	N. W. 49	W. 48	N. W. 42	S. W. 50	S. W. 72
Buffalo.....	S. W. 90	W. 64	S. W. 60	S. W. 54	S. W. 58	S. W. 56	S. W. 60	W. 48	W. 57	W. 66	W. 72	W. 78
Chicago.....	S. W. 64	N. E. 84	N. E. 68	N. E. 72	E. 62	N. W. 72	N. W. 52	N. E. 50	S. E. 60	S. 62	S. W. 60	S. W. 60
Cleveland.....	W. 54	W. 61	S. W. 53	W. 56	S. W. 60	N. W. 51	W. 66	W. 58	W. 54	S. 62	S. 73	N. W. 48
Detroit.....	S. W. 48	S. W. 60	S. W. 58	N. E. 72	S. W. 74	N. W. 60	N. W. 54	N. W. 37	S. W. 40	N. W. 61	S. W. 76	S. W. 51
Duluth.....	N. W. 56	N. E. 52	N. E. 60	N. E. 58	N. E. 60	S. W. 48	W. 42	N. 36	N. E. 78	N. E. 55	N. E. 46	S. W. 62
Erie.....	S. W. 56	S. 64	S. E. 55	S. E. 60	S. 60	S. W. 55	W. 56	W. 40	S. W. 45	W. 48	W. 54	W. 52
Escanaba.....	S. W. 44	N. 49	N. 52	N. 48	N. 38	S. 40	N. 33	N. 44	S. W. 40	n. 45	n. 60	N. 54
Grand Haven.....	N. W. 60	W. 59	W. 52	N. W. 44	S. E. 39	N. W. 48	N. E. 48	N. W. 48	N. W. 60	S. W. 55	S. W. 52	S. W. 66
Green Bay.....	N. 42	N. E. 48	N. 45	N. 48	N. E. 48	N. E. 36	S. W. 45	S. W. 42	N. W. 52	N. W. 48	N. W. 40	S. W. 38
Marquette.....	S. W. 54	W. 48	S. 52	W. 49	S. E. 52	S. W. 43	W. 44	W. 48	S. 61	N. 46	S. W. 48	W. 54
Milwaukee.....	N. W. 52	W. 54	W. 52	S. W. 54	S. E. 49	S. W. 60	S. W. 60	W. 52	W. 48	S. W. 60	N. W. 51	S. W. 56
Oswego.....	W. 52	S. 48	N. W. 50	S. E. 54	S. E. 40	N. E. 36	N. 38	N. 51	N. W. 51	S. E. 56	W. 42	W. 52
Port Huron.....	S. W. 72	S. W. 52	W. 54	S. W. 60	S. W. 54	N. 44	N. 56	N. 52	S. 46	S. W. 54	S. W. 58	S. W. 67
Rochester.....	S. W. 60	S. 56	W. 78	W. 62	W. 60	W. 44	N. W. 52	N. E. 48	N. W. 56	S. W. 56	S. 55	W. 54
Sandusky.....	N. W. 51	N. E. 64	N. W. 56	N. W. 52	N. W. 46	N. W. 57	N. 69	N. E. 63	N. E. 48	N. 54	N. W. 62	N. W. 56
Toledo.....	S. W. 55	N. E. 60	W. 72	W. 60	E 52	W. 50	N. W. 49	S. W. 45	S. 38	S. W. 48	S. W. 60	S. W. 48

*Waterspouts.*—The waterspout is one of the most impressive of Nature's displays of power. A black tornado cloud comes whirling over the water; it stoops toward the surface; the water beneath it becomes violently agitated, and suddenly, as though magnetized, leaps aloft to meet the cloud. Then, trailing under it—its whirling, frightful liquid pillar—the black cloud continues its furious dance across the sky. It is a most impressive spectacle.

A waterspout's effect upon a vessel with which it might collide can only be conjectured. There are reports of several ves-

sels having encountered these monsters in earlier years.

On Tuesday, July 8, 1897, a gigantic waterspout was seen at Sandusky, Ohio. It lasted somewhat longer than a quarter of an hour. The *Marine Record* describes the event: "Previous to this remarkable phenomenon the atmosphere was unusually clear, and far-away objects could be seen with a wonderful degree of distinctness. When this is the condition of affairs vessel-men forecast a heavy blow. The prediction proved true, as clouds were seen from apparently over Put-in-Bay. As they moved



in a low east by south direction they took up large quantities of water and whirled it through the air at a terrific rate of speed. The dimensions assumed by the waterspout were approximately twenty-five feet in diameter and reached a height of several thousand feet. It was an awe-inspiring sight to witness the fall of the immense column of water when it broke away from the influence of the whirlwind which caught it up from the surface of Lake Erie."

C. S. Martin, editor of the *Times*, Oswego, N. Y., wrote another description: "When the morning dawned the sky was overcast by dark, forbidding clouds, which denoted both wind and rain. The clouds over the lake were especially black and dangerous looking. A strong wind was blowing from the northwest, making a nasty, choppy sea. Suddenly out of the western horizon there could be seen sweeping down the lake a conical-shaped column. It looked like a huge serpent, twisting and revolving with the rapidity of lightning. The column reached from the dark, overhanging clouds to the surface of the lake. As it approached off this port it was seen to be five or six miles in the lake. As it whirled along it seemed to pick up large volumes of water and whirl it into the air. The water at its base was churned into a cauldron. When a mile or two below this port it burst. As it did so a vivid flash of lightning came out of the east, and a thousand tons of water which had been taken from the lake fell back, causing a mighty swell, which rolled shoreward. No sooner had this strange phenomenon disappeared than another was seen following in its course. It was larger than the first, and agitated the water more violently. It, too, broke at about the same place as did the former. There was a wait of perhaps half an hour when one of the grandest and most awe inspiring sights ever witnessed on the lakes was seen.

"Two of these whirling, writhing columns, standing obliquely from the lake to the sky, were seen coming down the lake. They were both larger than the two which had preceded them, and they raised a mountainous sea along their course. They

were as black as black could be. On they came, picking up thousands of tons of water and whirling it into the air as if it was the lightest of feathers. The outside of the conical columns was one whirling black mass. Through the center could be seen a white streak, like a vacuum, through which the water was being drawn from the lake to the clouds in a steady stream. These waterspouts were out between six and seven miles in the lake; the smaller one burst, but the larger one remained intact and was whirled down the lake toward the mouth of the St. Lawrence river keeping intact until lost sight of. These wonderful formations of vapor and water are dreaded by seafaring men, for a vessel, no matter how stanch she may be, is but a plaything in the power of a well-developed waterspout. The largest which passed this port was apparently between 75 and 100 feet in diameter at the bottom, and had it struck a vessel would have sent her to the bottom."

All five of the lakes are subject to these demonstrations. Erie, particularly, by reason of its shallowness.

In a recent communication in the *Marine Record*, Charles Gale, of London, Ont., speaking of waterspouts, says: "In June, 1845, I was anchored off Port Burwell loading lumber when a waterspout struck the beach close to us. Sticks of timber were thrown on the bank 12 feet high, four schooners drove ashore, and lumber was scattered all over the country, for with the waterspout was a sort of a tidal wave. The steamer Constitution had her wheelhouse and upper deck stove in, as well as three hands killed, through getting near to a bursting waterspout some years previous to the time I speak of. At another time, or in September, 1861, I was lying under Long Point, when a waterspout bursted near us, and there was such a commotion in the water that my vessel walked away with her anchor."

First Mate J. E. Reynolds of the Kittie M. Forbes was quoted by the *Buffalo Courier* in the description of several waterspouts encountered in August, 1898, about 20 miles east of the Dummy. Capt. James Mont-

gomery corroborated the account and said: "I've heard a great many lake men tell of seeing waterspouts here, but I always gave them a grain of allowance. I counted seven of the waterspouts, and it was more than an hour and a half from the time we saw the first one, until the last had disappeared. They were of varying size, from that of a man's body to that of a house. They seemed to extend from the surface of the lake clear into the clouds. I must confess that I was a bit scared of the big fellow dead ahead of us. I think prompt action in sheering off to the northward prevented a collision, and probably the fact that the wind eased up, aided our escape."

*Fogs* are another common occurrence on the Great Lakes, and are often attended by considerable damage to shipping from grounding. One peculiarity and danger of fog is the occasional aberration of sound. The *Marine Record* of December 3, 1896, gives the following account of aberration on Lake Michigan: "The fog signal located at the lake entrance to the Sturgeon Bay Ship canal is inaudible and unreliable at certain distances therefrom during the prevalence of a fog, and according to observations made by Charles O. Chapman, keeper of the station, the area of inaudibility covers a space of four square miles. Straight out from the canal SE  $\frac{1}{2}$  E. (true) for nearly a mile the fog whistle can be distinctly heard, but beyond that the sound becomes muffled and is suddenly lost to all hearing; this occurs for the space of about a mile, when it becomes audible again. This remarkable phenomenon extends over a space of 2  $\frac{1}{2}$  miles north of SE  $\frac{1}{2}$  E. (true), and about 1  $\frac{1}{2}$  miles south of SE  $\frac{1}{2}$  E. (true), and is about a mile in width, and has the same trend as that of the shore abreast of it, which forms an angle of about 90° and from point to point trends north, northeasterly and south, southwesterly. Many instances are known where steamboat and vessel captains have noted the steam from the whistle over a fog bank, but were unable to hear any sound from the same.

"Those of the steamboat captains and others that have been interviewed on the subject differ widely from one another as to

the exact location of this obscured spot. Some claim it to be south of the canal and about four miles from shore, while others claim it to be north of the canal and about two miles out. The life-savers at that point, in patrolling the beach both north and south of the canal, report at times they are unable to hear the whistle at distances not more than 2  $\frac{1}{2}$  miles. In speaking about the matter recently, Capt. Edward Cox, of the steambarge Seymour, says his experience has been that in coming down the lake in a fog and steering N. by E. the fog whistle is picked up near and off Ahnapee, and can be distinctly heard until at a point about six miles north of Ahnapee, and about four miles from shore when it becomes inaudible and remains so for about four miles, when it is again picked up and held.

"The same phenomenon has been noticed at Poverty Island recently by the officers of the lighthouse supply steamer Dahlia, Capt. Charles H. Hubbard. The Dahlia, during the prevalence of a fog, passed within a mile of the island and the officers on board were trying to pick up the fog whistle, but to no avail. Suddenly the fog lifted sufficiently to enable the officers to see the steam from the whistle, but they were unable to hear it until farther on. Another remarkable instance is the fog whistle at Kewaunee, which can be heard at the canal when it snows as plainly as though it were not more than 10 miles distant instead of 25; but in a fog it cannot be heard at the canal at all."

*The Mirage* on the lakes is another curious phenomenon. Some of the occupants of the high buildings are aware of the mirage frequently to be seen on the lake. A straight line drawn from the top of the Masonic Temple, touching the horizon, and on toward St. Joseph, would pass over that town on a level considerably above its highest steeple. Yet St. Joseph is often seen from sixteenth floor windows, and sometimes from even less height. The aid of mirage is necessary to explain the apparent depression of the horizon. The mirage inverted, high in the air, is peculiar to the tropics. The mirage of this latitude, however, sometimes allows one to see objects

at great distance. Duluth once was reported to be seen from a steamer 300 miles to the east. An explanation of the phenomenon involves tiresome technicalities. The sum and substance of it all is that the mirage actually makes a curve in the line of vision, to some extent counteracting the convexity of the horizon. The curve in the line of vision is produced by variations in the density of the layers of air between the object and the eye. The principle is aptly illustrated by dropping a cent into an empty bucket, shutting one eye, then ranging the bucket so that its near rim shuts off the view of all but the farther edge of the cent. Have the bucket filled with water and the entire cent becomes visible. Here the denser medium is water; in mirage it is a layer of denser air. [*Chicago Times Herald.*]

One of these phenomena, occurring over forty years ago, is thus preserved in an old account: In the month of August, 1856, a beautiful sight presented itself on Lake Ontario, and was seen by those on board the steamer Bay State, while on the passage from Niagara to Genesee river. It was known as a lake mirage, and was of unusual splendor. It took place just as the sun was setting, at which time some twelve vessels were seen reflected on the horizon in an inverted position with surprising clearness. The sky was overcast with a thick haze, such as is seen before a storm, and of a color favorable to represent upon a darkened background, clearly outlined, rigging and sails as perfectly as if the vessels themselves were actually transferred to the canvas. This unusual phenomenon lasted until darkness ended the scene.

*Humors of the Wind.*—The wind has odd humors, sometimes. Captain Busse once sailed a schooner over to St. Joseph in good time, over a sea as smooth as glass. On deck it was dead calm. The lower sails didn't draw an ounce. The top-sails, however, were drawn stiff in a fresh breeze all the way over. The same phenomenon has been noted by others, but never has been satisfactorily accounted for. The Straits of Gibraltar have been said to be the only place where the wind indulges in

the harmless whim of blowing in two directions at once. The statement is a mistake. Lieutenant Wilson, in the hydrographic office at Chicago, has seen the wind blow the smoke from steamers on the lake in four different directions at one time. The remarkable sight has been seen of two yachts, within a mile and a half of each other, running before the wind in opposite directions.

*Length of the St. Lawrence System.*—

The St. Lawrence river system pierces inland a greater distance than the width of the Atlantic ocean, following the ordinary lines of navigation. The following table of distances from the Straits of Belle Isle to Port Arthur has been prepared by Canadian authorities.

FROM	TO	SECTIONS OF NAVIGATION	Statute miles	
			Inter-mediate	Total
Strts. of Belle Isle	Cape Whittle	St. Lawrence g.	240	240
Cape Whittle	West Point	" "	201	441
West Point	Father Point	St. Lawrence r.	202	643
Father Point	Rimouski	" "	6	649
Rimouski	Bic	" "	12	661
Bic	Isle Verte	" "	39	700
Isle Verte	Quebec	" "	126	826
Quebec	Three Rivers	" "	74	900
Three Rivers	Montreal	" "	86	986
Montreal	Lachine	Lachine Canal	8 $\frac{1}{2}$	994 $\frac{1}{2}$
Lachine	Beauharnois	L. St. Louis	15 $\frac{1}{2}$	1 009 $\frac{1}{2}$
Beauharnois	Ste. Cecile	Beauh's Canal	11 $\frac{1}{2}$	1 021
Ste. Cecile	Cornwall	L. St. Louis	32 $\frac{1}{2}$	1 053 $\frac{1}{2}$
Cornwall	Dickinson's	Cornwall Canal	11 $\frac{1}{2}$	1 065 $\frac{1}{2}$
Dickinson's	Farran's Point	St. Lawrence r.	5	1 070 $\frac{1}{2}$
Farran's Point	Croyle's Island	Farran's Point	1 $\frac{1}{2}$	1 072
Croyle's Island	Williamsburg	St. Lawrence r.	10 $\frac{1}{2}$	1 082 $\frac{1}{2}$
Williamsburg	Rapide Flat	Rapide F. C'l.	4	1 086 $\frac{1}{2}$
Rapide Flat	Point Iroquois	St. Lawrence r.	4 $\frac{1}{2}$	1 090
Point Iroquois	Presque Isle	P't Iroq's C'l.	3	1 093
Presque Isle	Point Cardinal	Junction C'l.	2 $\frac{1}{2}$	1 095 $\frac{1}{2}$
Point Cardinal	Galops Rapids	Galops C'l.	2	1 097 $\frac{1}{2}$
Galops Rapids	Prescott	St. Lawrence r.	7 $\frac{1}{2}$	1 105
Prescott	Kingston	" "	59	1 164
Kingston	Port Dalhousie	L. Ontario	170	1 334
Port Dalhousie	Port Colborne	Welland C'l.	26 $\frac{1}{2}$	1 360 $\frac{1}{2}$
Port Colborne	Amherstburg	Lake Erie	332	1 522 $\frac{1}{2}$
Amherstburg	Windsor	Detroit river	18	1 540 $\frac{1}{2}$
Windsor	St. Mary's Island	L. St. Clair	25	1 565 $\frac{1}{2}$
St. Mary's Island	Sarnia	" "	33	1 598 $\frac{1}{2}$
Sarnia	St. Joseph's Is.	Lake Huron	270	1 868 $\frac{1}{2}$
Foot St. Joseph's Island	Foot Sault Ste. Marie	River St. Mary	47	1 915 $\frac{1}{2}$
Sault Ste. Marie	Head Sault Ste. Marie	Sault Ste. C'n'l	1	1 916 $\frac{1}{2}$
Head Sault Ste. Marie	Pointe aux Pins	River St. Mary	.7	1 917 $\frac{1}{2}$
Pointe aux Pins	Port Arthur	Lake Superior	266	2 253 $\frac{1}{2}$
Port Arthur	Duluth	" "	390	2 643 $\frac{1}{2}$

Of the 2,259 $\frac{1}{2}$  miles from the straits of Belle Isle to the head of Lake Superior, or to Port Arthur, 71 miles are artificial navigation, and 2,188 $\frac{1}{2}$  open lake navigation. The total fall from Lake Superior to tide-water, at Three Rivers, is about 600 feet, a



little more rather than less. The distance from Belle Isle to Liverpool, Eng., is 2,234 statute miles, or 1,942 geographical miles.

#### NAMES OF THE GREAT LAKES.

The early names bestowed upon the Great Lakes by the French navigators varied with different writers.

In the final edition of Champlain's narratives, bearing date of 1632, is a great map of the lake region as Champlain pictured it, in which Lake Ontario is marked "Lake St. Louis," and Lake Huron as "Mer Douce." Lake Michigan was called the "Grand Lac," and the Sault Ste. Marie, which was known to be the outlet of a great lake, was named the "Sault du Gaston," in commemoration of a brother of Louis XIII. No Lake Erie appears on this map, but there is drawn a long river draining Lake Huron, and passing over a cataract into Lake Ontario. About this time Vimont gave the name "Onguiaahra Sault" to Niagara Falls.

A map by Sanson (1656) shows all the five great lakes—the Ontario, or "Lac de St. Louis"; Erie, or "Lac Du Chat"; "Karegnondi," or Lake Huron; "Lac de Puans," or Lake Michigan; and Lac Supérieur.

In 1660 a map was made by Creuxius which gives the five Great Lakes under the following name: "Lacus Ontario," "Lacus Erius seu Felis," "Mare Dulce seu Lacus Huronum," "Magnus Lacus Algonquiorum seu Lacus Fœtetium," and "Lacus Superior."

In a map from the Jesuit Relation of 1672, Lake Superior is called "Lake Tracy," and Lake Michigan, "Lac des Illinois."

Galinée made a map of the lake region in which Lake Michigan is set down as "Lac des Puants," and there also appears on his map a "Nation des Puants," on the west shore of this lake. Lake Huron is styled "Mer Douce," Lake Erie, "Lac du Chat," and Lake Ontario, "Lac St. Louis," and it is made to appear by this map that the waters of Lake Huron pass down the Ottawa river instead of through Lake Erie and over Niagara Falls.

Lake Michigan in 1679 was known as Lac des Illinois, because it gave access to the country of the Indians, so named. Three years before Allouez called it Lac St. Joseph, by which name it was often designated by early writers. Membre, Douay and others called it Lac Dauphin.

Ontara in Iroquois means "lake," and Ontario, "beautiful lake."

The greater part of the southern shore of Lake Erie was at one time occupied by a tribe of Indians from which the lake derived its name, the Eries. This name is always mentioned by the early French writers as meaning "cat." On Sanson's map, published in 1656, Lake Erie is called "Lac du Chat" or Lake of the Cat. The name must be attributed to the wild cat or panther. It may have been assumed by the tribe because its warriors thought themselves as valorous as are these animals; or it may have been applied to them by their neighbors because of the number of wild beasts and panthers in the territory occupied by the Eries. These are the suggestions as to the origin of the name made by early writers.

A half century ago a writer, explaining a number of upper lake names, said:—

*Lake Superior* (Lac Supérieur, Fr., Kitchi-gummi, Ch.).—The name upon the Jesuit map is "Lac Tracy ov Sverievr." Lac Supérieur means simply Upper Lake. Lac Tracy seems to indicate a desire on the part of the Jesuits to perpetuate the name of M. de Tracy, by giving it to the largest sheet of fresh water on the globe. We need hardly add that the name of Lake Tracy was never adopted, and is quite unknown. Kitchi-gummi signifies Great-water or Great-lake, "gummi" being, in general, a collection of water, or lake.

*Michipicoten* (Great sand) Bay.—Not descriptive of the island, but of the river.

*Neepigon Bay*.—Neepi, or nipi, is water; neepigon, dirty water.

*Le Pate*.—Pie island; or pastry island, from its fancied resemblance to a French pie. The island rises from the water to the height of eight hundred feet, with regular and slightly sloping sides like a hat; and the term "Hat island," would convey a bet-

ter idea to the American reader, of its outline, than that now in use.

*Isle Royale.*—Isle Minong on Jesuit map. Minong is said to mean Great-island. Another explanation is that it means an island which is intersected in passing from one point to another. Thus one in voyaging down the north shore might pass from Pigeon river to Washington harbor, and, following along the shore of this island to its eastern extremity, make the traverse to Point Porphyry. It is very curious to observe that, on the map of the Great Lakes published in Charlevoix's Journal (1744), another large island of nearly the same size and shape as Isle Royal is inserted about half way between Keweenaw Point and Isle Royale. To this island, which is not on the Jesuit map, published sixty years before, the name of Isle Philippeaux is given, and it figures to this day on some of the European maps. This same error, if we recollect aright, is perpetuated in Henry's work, published in 1822.

*Montreal River.*—The name Montreal is one which is most frequently given by the voyageurs, in memory of their home, and the headquarters of the Hudson Bay Company. Indian Ka-wa-si-gi-mong-sipi, or River of the White Falls, alluding to the fine fall near the mouth of the river and visible from the lake.

*Ontonagon River.*—Nagon or nogon, signifies cup or dish, but whence the origin or what the meaning of the whole word, we have never been able satisfactorily to learn. Spelled on the Jesuit map Nantounagan.

*Keweenaw Point.*—On many maps Kewewaiwona. Kiouchounaning, Jesuit map. Pronounced by our Indians, Ki-wi-wai-non-ing, now written and pronounced as above; meaning a portage, or a place where a portage is made. The whole distance of some eighty or ninety miles around the point, being saved by entering Portage lake and following up a small stream, leaving a portage of only about a half a mile to Lake Superior on the other side.

*Manitou Island.*—Supposed to be one of the residences of the Indian goblin.

*Bete Grise Bay.*—Hardly any name on

Lake Superior is written so many different ways, but never as actually pronounced. The invariable pronunciation in the Lake Superior region is as if written "Bay Degree." The name is said to have been given from some gray animal seen in that vicinity, and to be written correctly must be "Baie-de la Bête grise," or "Bête grise bay." The Indian name is Ba-ghi-da-wi-ining, a bay where nets are set; there being here excellent fishing ground.

*L'Anse.*—Anse is bay. It is applied to many indentations of the coast, but for the most part it has reference to the settlement, at the head of Keweenaw bay.

*Manistee River and Lake.*—This name has been generally spelled on the map, Manistique. The name is pronounced by those residing at the mouth of the river, Manistee. It is written also, by Charlevoix, la Manistei. The name, as explained by Indians, means, "A river at whose mouth are islands." There is, at least, one other river of this name emptying into Lake Michigan.

*Seul Choix Point.*—The only choice; in allusion to the few spots along the coast suitable for landing. Properly written Seule Choix.

*Menomonee River.*—Indian—equivalent to Wild-rice river. On Jesuit map "Rivière des Oumalouminee, on de la folle avoine."

*Escanaba River.*—Flat-rock or Smooth-stone river. Name given in allusion to the geological peculiarities of the river.

Hubbard, in his "Memorials of a Half Century," thus speaks of the naming of Lake St. Clair by La Salle: "The saint, whose name was really bestowed, and whose day is August 12th, is the female Sainte Claire, 'the foundress of the order of Franciscan nuns of the thirteenth century, known as Poor Claires.' Clara d'Assisi was a beautiful daughter of a nobleman of great wealth, who early dedicated herself to a religious life, and went to St. Francis to ask for advice. On Palm Sunday she went to church with her family, dressed in rich attire, where St. Francis cut off her long hair with his own hands, and threw over her the coarse penitential robes of the

order. She entered the convent of San Damiano, in spite of the opposition of her family and friends. It is related of her that, on one occasion, when the Saracens came to ravage the convent, she arose from her bed, where she had been long confined, and placed the pyx, which contained the host, upon the threshold; she knelt down and began to sing, whereupon the infidels threw down their arms and fled. Sancta Clara is a favorite saint all over Europe, and her fame in the New World ought not to be spoiled—like the record of the dead in a battle-gazette—by a misspelt name."

F. Way, in his work on Rome, published in 1875, says: "Sancta Clara has

her tomb at the Minerva, and she dwelt between the Pantheon and the Thermæ of Agrippa. The tenement she occupied at the time of her decease still exists, but is not well known. In a little triangular place on or near Via Tor, Argentina, lodged the first convent of the Clarisses. If, crossing the gate-way, you turn to the left of the court, you will face twow indows of a slightly raised ground-floor. It was there Innocent IV visited her, and there, on August 12, 1253, listening to the reading of the Passion, in the midst of her weeping nuns, died the first abbess of the Clarisses, and the founder of 4,000 religious houses."

## CHAPTER V.

### THE ABORIGINES

HOW THE LAKE REGION WAS OCCUPIED BY THE INDIANS—THREE BRANCHES OF THE ALGONQUINS—THE OTTAWAS, OJIBWAS AND POTTAWATOMIES—THE WARLIKE IROQUOIS ON THE LOWER LAKE—THEIR CUSTOMS—THE HURONS—THE NEUTERS AT NIAGARA FALLS—LEGEND OF NIAGARA FALLS—THE ANNUAL SACRIFICE TO THE GREAT SPIRIT—THE ERIES—THE POTTAWATOMIES—THE SACS AND FOXES—THE WINNEBAGOES—BRAVERY OF A CHIPPEWA BAND—INDIAN SUPERSTITIONS ON LAKE SUPERIOR—LAKE SUPERIOR A DIVINITY—THE LEGEND OF SAIL ROCK—NAVIGATION BY THE INDIANS—PRE-HISTORIC COPPER MINING—AN INDIAN NAVAL BATTLE—BLACK HAWK'S WAR—INDIAN TITLE TO LAKE SUPERIOR CEDED—THE INDIANS OF ST. MARY'S—"NIAGARA," AN ALLEGORY.

**W**HEN America was discovered by the bold European navigators, and the French possessions crept steadily up the St. Lawrence basin toward the Great Lakes, this region was occupied by several distinct and antagonistic aboriginal families, almost constantly at war among themselves or with other tribes and nations. The trend of Indian movement at that time was slowly but steadily westward. North of Lake Huron, through the Michigan peninsula and thence into northern Wisconsin, dwelt three branches of the Algonquin nation—the Ottawas, the Ojibwas and the Pottawatomies. The Ottawas, shortly before the discovery of America, had occupied the Ottawa river

district, but had retired to the region of the Manitoulin islands and the straits of Mackinac, where they were first known to the French. About the Sault Ste. Marie and along the southern shores of Lake Superior to Ontonagon lived the Ojibwas, who also pressed the northeast shores of Lake Superior, which were then the hunting grounds of the Crees. The Pottawatomies, the third branch of the Algonquins, were in a migratory state between Green Bay and the Mississippi, and were moving southward toward Chicago.

West of the Great Lakes, near the headwaters of the Mississippi, and touching the head of Lake Superior, were seated the



warlike Dakotas, between whom and the Ojibwas was a disputed territory. The region north of Lake Superior and extending to Hudson Bay, was occupied by the Crees or Kenistenaux. They were allied to the Algonquin tribes. It is supposed that the shores of Lake Superior had formerly been the central grounds of the Algonquin tribes, and that thence they had extended both east and westward till driven back by other tribes.

*The Fierce Iroquois.*—Another Indian group, more potential than any other in the making of American history, dwelt to the eastward. Its fiercest and most vital branch was the Iroquois nation, consisting of the Senecas, Cayugas, Onondagas, Oneidas and the Mohawks. Their earlier home had been on the banks of the St. Lawrence in the vicinity of Montreal, but when the French explorers came they possessed the lake region in New York State, south of Lake Ontario.

William Smith, in his History of New York, written in 1756, thus speaks of the Iroquois: "No people in the world, perhaps, have higher notions than these Indians, of military glory. All the surrounding nations have felt the effects of their prowess, and many not only became their tributaries, but were so subjugated to their power, that without their consent, they durst not commence either war or peace. The French have tried all possible means to divide these republics, and sometimes have even sown great jealousies among them. In consequence of this plan they have seduced many families to withdraw to Canada, and there settled them in regular towns, under command of a fort and the tuition of missionaries.

"The Five Nations, being devoted to war, every art is contrived to diffuse a military spirit through the whole body of their people. The ceremonies, attending the return of a party, seem calculated in particular for that purpose. The day before they enter the village, two heralds advance, and at a small distance set up a yell, which, by its modulation, intimates either good or bad news. If the former, the village is alarmed and an entertainment provided for the con-

querors, who, in the meantime, approach in sight; one of them bears the scalps stretched over a bow, and elevated upon a long bow. The boldest man in the town comes out and receives it, and instantly flies to the hut, where the rest are collected. If he is overtaken he is beaten unmercifully, but if he outruns the pursuer, he participates in the honor of the victors, who, at their first entrance, receive no compliments, nor speak a single word till the end of the feast. Their parents, wives and children are then admitted, and treat them with the profoundest respect. After these salutations one of the conquerors is appointed to relate the whole adventure, to which the rest attentively listen, without asking a question, and the whole concludes with a savage dance."

It has been conjectured by historians that the Iroquois were a branch of the Dakotas, who perhaps centuries earlier had migrated eastward through Michigan peninsula, to the valley of the St. Lawrence, where their traditional history began.

*The Hurons.*—Related to the Iroquois were the Hurons, or Wyandots, the Eries and other interior tribes. The Hurons were occupants of Canada, from Georgian Bay southward and eastward, around Lake Simcoe toward Lake Erie.

When driven from their homes by the Iroquois, as will be noticed hereafter, the Hurons and Ottawas migrated to Green Bay. There, hearing that the Iroquois knew of their retreat and were preparing an expedition, the demoralized Hurons again retreated westward to the Mississippi and ascended the Upper Iowa river where the inhabiting tribes received them kindly. But the Hurons did not relish Buffalo hunting on broad prairies, and sought the timbered lands in the upper Mississippi valley above Lake Pepin. The neighboring Sioux were friendly, but the Hurons, armed with guns, conspired to drive away their hospitable neighbors. Repulsed by the Sioux they descended the Mississippi and established themselves on the Black river, near the present city of La Crosse, Wisconsin.

While hunting west of Lake Superior the Hurons again became embroiled in war

with the Sioux, and were forced to flee. They returned to their old grounds at Mackinaw, while the Ottawas repossessed the Manitoulin island in Lake Huron.

*Legend of Niagara Falls.*—The Neuter nation of Indians, who were closely allied to the Eries, occupied the territory west of the Niagara river, and as it was the custom of the Indians everywhere to give their name to, or take it from, the chief natural feature of the country which they inhabited, they were called Onguiaahra, the name of the river. These Neuter Indians are said to have regarded the river with a feeling of awe and reverence, and considered the Great Spirit of Niagara as the embodiment of power. They heard in the thunder of the falls the voice of the Great Spirit, which they were taught to believe existed over all, and they regularly contributed a part of their crops and the fruits of the chase to him, and even went so far as to offer human sacrifice on their return from wars waged upon them. As an annual offering of good will and gratitude for the blessings they had received during the year, and for their deliverance from many evils which had threatened them, it is related that they offered up each spring the fairest maiden of their tribe, sending her over the falls in a white canoe filled with fruits and flowers, the canoe being guided by her own hand.

The honor of being selected for this sacrifice was eagerly sought after by the young women of the tribe, and that clan, which happened to be the one possessing the maiden selected, took great pride to itself for the honor thus conferred. What terminated this superstitious practice is said to have been the selection one spring of the daughter of the principal chief of the nation. Upon the day fixed for the sacrifice the father was perfectly self-composed and stoical, as became an Indian chief, and did nothing to show that he preferred the sacrifice should not be made; but as the canoe containing the maiden and the fruits and the flowers moved out over the rapids above the falls, another canoe containing the father shot rapidly out from the shore, and both disappeared over the great cataract almost at the same moment. The loss of

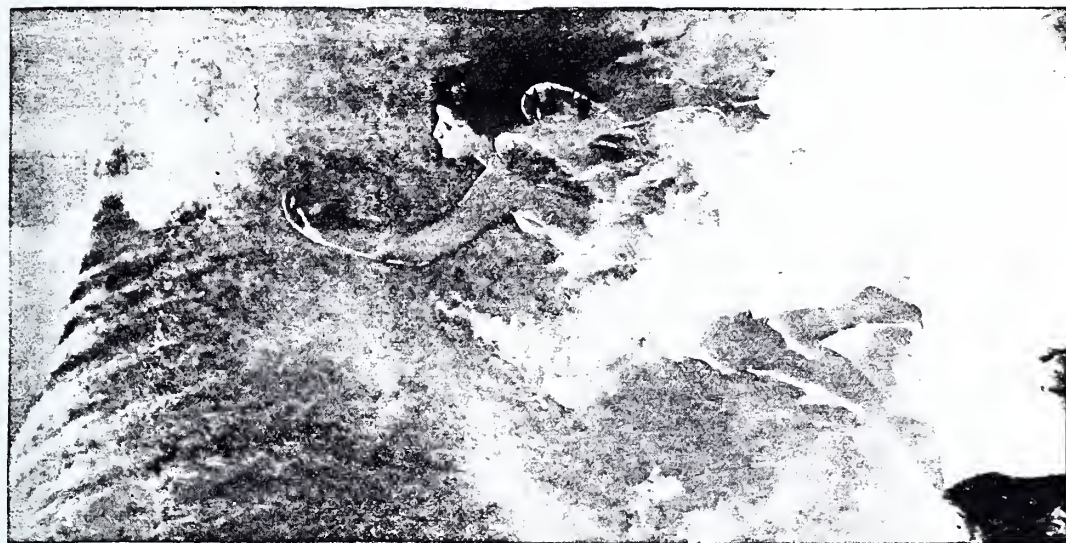
their beloved chief was too great, and it is said from this time on the sacrifice in the spring of the fairest of the flock was discontinued. The reason given by others for the discontinuance of this custom was that the Neuter nation was exterminated by other Indians, and, that as the conquerors did not believe in the Great Spirit of Niagara, there was no reason for them to practice the rite. The Neuter nation is said to have always desired to be buried on the banks of or near the Niagara river. Many bones of the dead of former centuries have been found on the banks of this historic river, and also on Goat island.

Modern fancy portrays the real spirits of the Indian maidens sacrificed to the spirit of Niagara in days gone by, as idealized into the Maiden of the Mist, a mythical and typical maiden dwelling at the base of the falls, and continuously, both by day and night, disporting herself in the ever-rising and never-failing clouds of mist or spray, awaiting and greeting the spirits of those victims who from time to time yield up their lives to Niagara, or as the Indians pronounced it. Two paintings, representing "The Maiden's Sacrifice" and "The Maid of the Mist" may be seen at the Cataract House, Niagara Falls.

*The Eries.*—On the southern shores of Lake Erie lived the Eries, or Cat nation, as they were called. Both the Neuters and the Eries were exterminated by the Iroquois in the fierce warfare of 1650 to 1655, and the Huron nation at the same time received its death blow from the same source. The Eries in 1654 were supposed to have 2,000 braves, excellent bowmen, with poisoned arrows. Along the southern shores of Lake Erie they had many towns, and cultivated the earth. But in 1655, when almost totally destroyed, the remnant was compelled to flee far to the westward.

One hundred years ago the Indians who then dwelt in northern Ohio were accustomed to meet every autumn in Cleveland in great numbers, and pile up their canoes at the mouth of the Cuyahoga. From thence they scattered into the interior and passed the winter in hunting. In the spring they returned, disposed of their furs to traders,





LEGEND OF NIAGARA FALLS





and launching their bark canoes upon the lake, returned to their towns in the region of the Sandusky and Maumee, where they remained until the succeeding autumn to raise their crops of corn and potatoes.

*The Pottawatomes*, a subdivision of the Ottawas and Chippewas, lived formerly north of Lake Huron. In 1670 they were established at Green Bay. Later they migrated farther to the south. They were among the savages who participated in the massacre at Chicago in 1812. A portion of the tribe located in northern Michigan, another fragment in northern Ohio, and still another division in northern and western Illinois. They were described as being "tall, fierce and haughty," but were nomadic in habit. The name signifies, "we are making a fire." Of the 1,930 warriors of the Algonquin confederacy, who met Sir William Johnson at Niagara in 1763 to negotiate a treaty of peace, 450 were Pottawatomes.

*The Sacs and Foxes*, two allied tribes known to the French as the Outagamies, had a village of 400 warriors near Green Bay in 1666. Father Allouez, who first described them, says: "They were very much disparaged, and reputed by other nations as penurious, avaricious, thievish and quarrelsome. The Sacs and Foxes alone of all the Algonquin tribes, with their kindred, the Kickapoos, resisted the blandishments and friendly overtures of the French traders and missionaries. Early in the eighteenth century they passed westward from the shores of the Great Lakes.

*The Winnebagoes*.—Occupying the forests near Green Bay another tribe of Indians was discovered by the explorers, the Winnebagoes, whose speech differed widely from the dialect of their neighbors, the Algonquins, and who were known to the French pioneers as the Puants. It is supposed that they descended, like the Iroquois, from a branch of the Dakota stock. They had the reputation of being good-natured, manly and untruthful.

*Bravery of a Chippewa Band*.—Many are the legends and stories of these aborigines associated with points of interest on the upper lakes. Presque Isle, the high

headland, two miles north of Marquette, was once the site of a flourishing Indian village of the Chippewa tribe, and as these Chippewas were far removed from their enemies the Dakotas, many of the young braves had never drawn bow or tomahawk in combat. On this account they were tantalized and called squaws by their brethren on the frontier. After enduring this a long time a war party was organized to wash away with blood these imputations of cowardice. Before setting out in search of their enemies, the party, thirteen in number, appointed a young man as runner to accompany them, watch the result, and, in the event of their destruction, to hasten back with the tidings. They soon fell in with an enemy four times their number. Selecting their ground and directing the runner to take a position from which he could see the battle, they made their onset. They killed twice their own number, and then retreated to a place of entrenchment. Enraged at the loss, the enemy pursued, fell upon, and amidst great carnage, slew them all. The young Indian runner was seen by Governor Cass soon after his return, and the governor listened with much interest as he recounted the incidents of the thrilling adventure and chanted his requiem song in eulogy of the fallen.

The Chippewas of Lake Superior were full of superstitious fear regarding Keweenaw Point. They believed that a demon resided there, and they dared not visit his domain to procure copper without first propitiating him with rites and gifts; then, trembling and in silence, they lighted fires around some exposed mass of the metal, and, when it was softened, they hastily cut off a small quantity and fled to their canoes without looking back. So strong was their dread that for years the explorers were unable to obtain from them information about the Point, neither would they act as guides, although tempting bribes were offered.

*Indian Superstitions on Lake Superior*.—In "The Relation for 1669-70" Father Dablon relates a few of the Indian superstitions. He says: "We have learned from the savages some secrets which they did not wish at first to communicate, so that

we were obliged to use some artifice. We do not, however, vouch for everything contained in the following account. After entering the lake, the first place met with containing copper is an island about forty or fifty leagues from the Saut, towards the north shore, opposite a place called Missipicoating (Michipicoten). The savages relate that it is a floating island, being sometimes near and at others afar off. A long time ago four savages landed there, having lost their way in a fog, with which the island is frequently surrounded. It was previous to their acquaintance with the French, and they knew nothing of the use of kettles and hatchets. In cooking their meals, as is usual among the savages, by heating stones and casting them into a birch-bark pail containing water, they found that they were almost all copper. After having completed their meal they hastened to re-embark, for they were afraid of the lynxes and hares, which here grow to the size of dogs. They took with them copper stones and plates, but had hardly left the shore before they heard a loud voice exclaiming in an angry tone, 'Who are the thieves that carry off the cradles and the toys of my children?' They were very much surprised at the sound, not knowing whence it came. One said it was the thunder; another that it was a certain goblin called Misibizi, the spirit of the waters, like Neptune among the heathen; another that it came from the Memogovissivois, who are marine men, living constantly under the water, like the Tritons and Syrens, having long hair reaching to the waist; and one of the savages asserted that he had actually seen such a being. At any rate, this extraordinary voice produced such fear that one of them died before landing; shortly after, two others died, and one alone reached home, who, after having related what had happened, also died. Since that time the savages have not dared to visit the island, or even to steer in that direction."

The father attempts to explain this superstition by supposing that they were poisoned by using the copper boulders in cooking their meat, and that the supernat-

ural voice was an echo of their own, and that the vanishing and reappearing of the island was due to fogs and haze which hang about it. He concludes by adding that it is a common belief among the savages that the "island contains an abundance of copper, but that no one dare approach it."

*Lake Superior a Divinity.*—"The savages," says Father Allouez, "respect this lake as a divinity, and offer sacrifices to it because of its size, for it is two hundred leagues long and eighty broad, and also in consequence of its furnishing them with fish, upon which all the natives live when hunting is scarce in these quarters. It happens frequently that pieces of copper are found, weighing from ten to twenty pounds. I have seen several such pieces in the hands of savages; and since they are very superstitious, they esteem them as divinities, or as presents given to them to promote their happiness by the gods who dwell beneath the water. For this reason they preserve these pieces of copper wrapped up with their most precious articles. In some families they have been kept for more than fifty years; in others, they have descended from time out of mind—being cherished as domestic gods."

*The Legend of Sail Rock.*—One of the old legends of Lake Superior, that of the "Sail Rock," was written in verse by Constance Fenimore Woolson, and published many years ago in *Harper's Monthly*. The beautiful poem is as follows:

From the far Saut of Sainte Marie he wanders,  
On, ever on, the white foam on his track,  
By night, by day, sails fleet before the wind,  
Until he sees the head of Fond du Lac;  
Yet finds not there the rest he seeks with yearning;  
From all the cliffs—and he must wander forth  
Over the waves again, by south winds driven,  
Past the dark palisades into the north.

There stands the haunted arch of Spirit river;  
There, in the storm, is seen the misty shape  
Of Manitou, who guards the great Superior,  
Rising above the heights of Thunder cape;  
And seeing him, the guilty one, approaching,  
The voices of the surf rise in a roar  
Below the porphyry cliffs, sounding a summons,  
To call the spirits to the lonely shore.



Down, down, they troop through the ravines of iron,  
 Over the rocks where virgin silver shines;  
 Up, up, they roll the surf, a seething barrier,  
 And marshal on the beach their shadow lines.  
 He cries, he weeps, he prays with arms extended;  
 "Have mercy upon me, a soul unblest—  
 I come not for your stores of shining treasure,  
 I only beg—I only pray for rest.

"Aged am I, and worn with countless journeys,  
 Over the lake forever must I stay;  
 In the whole south I cannot find a landing,  
 Keweenaw's copper arm thrusts me away;  
 I sail, and sail, yet never find a harbor,—  
 Stern is the east and sterner is the west;  
 Oh, grant me but one foothold on the north shore,  
 So can I die at last and be at rest."

But not! they drive him off with jeers and shouting;  
 Before their ghostly glee the cursed one quails;  
 Forth from the silver rocks of haunted northland,  
 Not daring to look back, away he sails;  
 And sails, and sails, yet never finds a landing,  
 Though fairest coasts and isles he passes by;  
 And hopes, and hopes, yet never finds a foothold  
 On any shore where he can kneel and die.

Weary and worn, through many a redman's lifetime,  
 Over the lake he wanders on and on;  
 Till up through Huron with red banners flying,  
 Come white men from the rising of the sun.  
 The Saut they name from Sainte Marie with blessing,  
 The lake lies hushed before their holy bell,  
 As landing on the shores of Rocky Pictures,  
 They raise the white cross of *la grande Chapelle*.

As the first white man's hymn on great Superior  
 Sounds from the rocky church not made with hands,  
 A phantom boat sails in from the still offing,  
 And at its bow an aged figure stands.  
 The worn cords strain, so full the sails are swelling,  
 The old mast bends and quivers like a bow;  
 Yet calm the windless sky shines blue above them,  
 And calm the windless waves shine blue below.

The boat glides in still faster, faster sailing,  
 Like lightning darting o'er the shrinking miles;  
 And, as he hears the chanting in the chapel,  
 For the first time in years the lone one smiles.  
 At last, at last, his feet are on the dear shore,  
 The curse is gone, his eyes to heaven rise;  
 At last, at last, his mother earth receives him,—  
 At last, at last, with thankful heart he dies.

The poor worn body, old with many lifetimes,  
 They find there lying on the golden sands;  
 But, lifting it with wonder and with reverence,  
 It crumbles into dust beneath their hands.

The poor worn boat grown old with endless voyages,  
 Floats up the coast unguided and alone,  
 And stranding 'neath the cliffs, its mission over,  
 By the Great Spirit's hand is *turned to stone*.

You see it there among the Rocky Pictures,  
 The mainsail and the jib just as they were;  
 We never passed it with a song or laughter  
 In the gay days when we were voyagers;  
 The best among us doffed our caps in silence;  
 The gayest of us never dared to mock  
 At the strange tale that comes down from our fathers,—  
 The pictured legend of the old Sail Rock

*Lake Navigation by the Indians.*—The Great Lakes were traversed by the aborigines for a long period prior to the arrival of the Europeans. Trips from the upper to the lower lakes were annual occurrences, and warfare was almost perpetual. Thus the Iroquois in September, 1680, with six hundred selected braves, attacked the Illinois in the western part of Illinois, killing one thousand two hundred, and driving the rest beyond the Mississippi. Again, on March 20, 1684, the Iroquois for seven days laid siege to the Illinois, but were finally repulsed with great loss. Iroquois Point is so named because on that bluff a band of Iroquois, who had ascended Lake Huron from Lake Ontario on a warlike expedition, were there utterly defeated and destroyed.

To what extent the Indians engaged in commerce on the Great Lakes before the advent of the French colonists is not known. It is said that the Hurons, who dwelt on the banks of the St. Lawrence, made long journeys in their light canoes, on which they exchanged the copper implements and the agate arrow-heads of the Far West for the shells and commodities of the seashore.

There may have been navigation of the Great Lakes before the Indians, for a people who preceded them in the occupancy of the Lake Superior region had engaged in copper mining quite extensively, and it is probable that they were also skilled mariners.

*Prehistoric Copper Mining.*—An early writer, in describing the evidences of this prehistoric mining, says:

"That this region was resorted to by a barbaric race for the purpose of procuring

copper, long before it became known to the white man, is evident from numerous memorials scattered throughout its entire extent. Whether these ancient miners belonged to the race who built the mounds found so abundantly on the Upper Mississippi and its affluents, or were the progenitors of the Indians now inhabiting the country, is a matter of conjecture.

"The evidence of the early mining consists in the existence of numerous excavations in the solid rock; of heaps of rubble and earth along the courses of the veins; of the remains of copper utensils fashioned into the form of knives and chisels; of stone hammers, some of which are of immense size and weight; of wooden bowls for boiling water from the mines; and numerous levers of wood used in raising the masses of copper to the surface.

"The high antiquity of this rude mining is inferred from the fact that the existing race of Indians have no tradition, by what people or at what period it was done. The places, even, were unknown to the oldest of the band until pointed out by the white man. The character of the trees growing upon the piles of rubbish showed no perceptible difference from those forming the surrounding forest. From the mouldering state of the wooden billets and levers, and from the nature of the materials with which these excavations are filled, consisting of fine clay, enveloping half-decayed leaves, and the bones of the bear, the deer and the caribou, this filling up resulted, not from the action of temporary streamlets, but from the slow accumulations of years."

*Indian Naval Battle.*—Hunting trips and wars occasioned the Indian navigation of the Great Lakes rather than regular commerce, and not unlikely there has been many a primitive naval contest between warring tribes. The *Buffalo Gazette*, of March 17, 1818, contains the following account of what it calls "The First Naval Battle on Lake Erie."

About 1600 the Wyandot Indians resided on the north shore of Lake Ontario and River St. Lawrence. Opposite to them on the south side of the waters resided the Senecas. A woman was the

cause of a terrible war between them, which terminated in the expulsion of the former from the country. She was the wife of a Seneca chief, and appears to have been in high favor with him. A Wyandot prince became enamored of her, and by force carried her off to his own dominions. War immediately followed, and was prosecuted with great cruelty and slaughter for a long time. At last a final battle came on (in the northern territory) in which the Wyandots were worsted and obliged to flee with great haste.

The greater part took a course to the west, and were followed by their antagonists until they came to Lakes Huron and St. Clair. The fugitives calculated to pass on the ice at the Straits, but they found it just broken up and floating downward.

Their only alternative was to throw themselves upon it and leap from cake to cake. In so doing they all reached the other shore in safety. Their pursuers, not choosing to encounter the risk, returned home.

The nations among whom the Wyandots now found themselves—Pottawatomies, Ottawas and Chippewas—received them with friendship and gave or lent them land to settle on. At the solicitation of the strangers they even went so far as to fit out a fleet of large and elegant birch canoes, with a view to meeting the Senecas, whom they expected with a fleet from the East. These canoes were chiefly built at the Straits and higher lakes, and came to a rendezvous about where Malden is now located.

The Senecas, not having as good materials, were obliged to make use of log canoes hollowed out of the trunks of trees. These were far more clumsy and unmanageable than the birch ones, the latter being equal in sea-worthiness to the finest skiffs of our day.

The Wyandots set out from their rendezvous, coasting the north shore of Lake Erie, as far as Long Point. At this place they made a halt, deeming it wise to proceed no further until an investigation was made. For this purpose they dispatched a few men across the point, who happened to meet midway with about the same number of the enemy dispatched for a similar object.

Every man returned to his own fleet, except one or two Wyandots, who remained a time to ascertain the number of their enemy and the nature of their craft.

Soon a grand maneuver took place. The birch canoe party proceeded to the end of the Point, and in full view of the enemy put out directly into the lake. The Senecas immediately pursued, and when they had reached about midway of the lake, the birch canoes turned upon them and gave them a battle that could not be withstood. The Senecas were all slain but one man, who was allowed to return and report the catastrophe to his nation.

Thus closed the war, after which the Wyandots remained in peace in their new station.

The birch canoe of the Indian navigator is fully described in a subsequent chapter. It was the masterpiece of Huron handiwork, in the construction of which the Algonquins were no less skillful. The Iroquois, in the absence of birch, were often forced to use bark of the elm, which was greatly inferior both in lightness and strength.

The Indian character was not eliminated from Lake history for centuries after the white man appeared. He figured prominently in the fierce struggle for the supremacy of these great and important waterways, as is described in subsequent chapters, and it is a somewhat singular fact, as Hinsdale observes in "The Old Northwest," that whenever the St. Lawrence valley and the Atlantic slope have been arrayed against each other in deadly strife, the Western Indians have sided with the former—in 1755, in 1775 and in 1812.

*Black Hawk's War.*—The Indian title to the lake region was gradually extinguished. Treaties with the savage Iroquois, or Five Nations, gave to the English possession of the shores of Lake Ontario during the last century; and as settlements extended westward the aborigines gradually disappeared. An event of some importance in lake history was Black Hawk's war, in 1832. In 1831 the Winnebagoes occupied the Wisconsin river region, and numbered 1,500 braves. The Pottawatomies dwelt in northeastern Illinois, and mustered 3,000 men. The

Sacs and Foxes, quite as numerous, occupied lands on the Mississippi. By the treaty of 1804, confirmed in 1822 and in 1830, the lands on the shores of Lake Michigan had been ceded to the United States by these tribes. But the Indians claimed the treaties had been violated, and Black Hawk, a chief of the Sacs and Foxes, aroused these tribes to revolt. Four steamers started with troops from the lower lakes for Chicago to suppress the rebellion. Cholera broke out aboard the vessels, and many of the soldiers perished. The Indians, however, were subdued, and their title to Lake Michigan effectually extinguished.

*Indian Title to Lake Superior Ceded.*—The lands composing the Lake Superior district were acquired from the Indians by the United States by virtue of the following treaties:

*First.*—With the Ottawas and Chippewas, concluded March 28, 1836—ratified May 27, 1836—by which were ceded the lands bounded on the north by Lake Superior, on the east by the St. Mary's river, on the south by Lake Michigan, and on the west by the Escanaba and Chocolate rivers.

*Second.*—With the Menomonees, concluded September 3, 1836—ratified February 15, 1837—by which was ceded a tract bounded on the east by the Escanaba river, on the south by Green bay, on the west by the Menomonee river, and on the north by an irregular line extending from the mouth of the Brulé to the headwaters of the Escanaba.

*Third.*—With the Chippewas of the Mississippi and Lake Superior, concluded October 4, 1842—ratified March 23, 1843—by which was ceded the remainder of the district washed by Lake Superior on the north, and extending west from Chocolate to Montreal river, and southerly to the boundary between Wisconsin and Michigan. In this cession Isle Royal was also included.

*The Indians of St. Mary's.*—The aborigines linger in large numbers down to the memory of the present sailor. At the beginning of the century the lake Indians were numerous. Writing in 1801 of the Indian village at the falls of St. Mary, Mackenzie says: "At the foot of the fall on the south shore is a



village, formerly a place of great resort for the inhabitants of Lake Superior, and consequently of considerable trade; it is now, however, dwindled to nothing, and reduced to about thirty families of the Algonquin nation, who are one half of the year starving, and the other half intoxicated, and ten or twelve Canadians, who have been in the Indian country from an early period of life, and intermarried with the natives, who have brought them families. Their inducement to settle there was the great quantity of white fish that are to be taken in and about the falls, with very little trouble, particularly in the autumn, when the fish leave the lakes and come to the running and shallow water to spawn. These, when salt can be procured, are pickled, just as the frost sets in, and prove very good food with potatoes, which they have of late cultivated with success. The natives live chiefly on this fish, which they hang up by the tails and preserve throughout the winter, or at least as long as they last; for whatever quantity they may have taken, it is never known to last through the winter, which renders their situation very distressing. In the spring of the year they make a quantity of sugar from the maple tree, which they exchange with the traders for necessary articles, or carry it to Michilimackinac, where they expect a better price."

#### NIAGARA, AN ALLEGORY.

This chapter may be fittingly closed with an Indian allegory, "Niagara," which Schoolcraft turned into verse. It is as follows:

An old grey man on a mountain lived,  
He had daughters four and one,  
And a tall bright lodge of the betula bark  
That glittered in the sun.

He lived on the very highest top,  
For he was a hunter free,

Where he could spy on the clearest day,  
Gleams of the distant sea.

Come out! come out! cried the youngest one,  
Let us off to look at the sea,  
And out they ran in their gayest robes,  
And skipped and ran with glee.

Come Su,\* come Mi, come Hu, come Sa,  
Cried laughing little Er,  
Let us go to yonder broad, blue deep,  
Where the breakers foam and roar.

And on they scampered by valley and wood,  
By earth and air and sky,  
Till they came to a steep where the bare rocks stood,  
In a precipice mountain high.

Inya!† cried Er, here's a dreadful leap,  
But we are gone so far,  
That if we flinch and return in fear,  
Nos,‡ he will cry ha! ha!

Now each was clad in a vesture light,  
That floated far behind,  
With sandals of frozen water drops,  
And wings of painted wind.

And down they plunged with a merry skip,  
Like birds that skim the plain;  
And hey! they cried, let us up and try  
And down that steep again.

And up and down the daughters skipped,  
Like girls on a holiday,  
And laughed outright at the sport and foam  
They called Niagara.

If ye would see a sight so rare,  
Where Nature's in her glee,  
Go view the spot in the wild, wild West.  
The land of the brave and the free.

But mark! their shapes are only seen  
In fancy's deepest play,  
But she plainly shows their wings and feet  
In the dancing sunny spray.

\*Su—Superior.  
Mi—Michigan.  
Hu—Huron.  
Sa—St. Clare.  
Er—Erie.

†Inya—An exclamation of surprise.

‡Nos—My father.

## CHAPTER VI.

### FRENCH DISCOVERY AND OCCUPATION.

LAKE HURON DISCOVERED BY LE CARON AND CHAMPLAIN—CHAMPLAIN'S VOYAGE—LAKE SUPERIOR DISCOVERED—NICOLET FIRST NAVIGATES LAKE MICHIGAN—A DOWN TRIP ON LAKE ERIE—FIRST PASSAGE THROUGH DETROIT RIVER—EARLY EXPLORATIONS ON THE ST. LAWRENCE—THE DISCOVERER OF LAKE MICHIGAN—THE CAREER OF NICOLET—THE DISCOVERY OF NIAGARA FALLS—THE FRENCH MISSIONS AND MISSIONARIES—IROQUOIS DESTROY THE HURON MISSIONS—MISSIONS ON THE UPPER LAKES—"HIAWATHA"—CHARACTER OF THE JESUIT FATHERS—PARKMAN'S ESTIMATE—THE FUR TRADE—THE MAGNET OF IMMIGRATION—THE COUREUR DE BOIS—EXPLORATIONS OF TRADER JOLIET—COPPER IN THE LAKE SUPERIOR REGIONS.

THIS is the order in which the Great Lakes were discovered by the French explorers: Huron in 1615, by Le Caron, the Recollect friar, and by Champlain, one of the greatest navigators in New France; Ontario, during the same year, by Champlain; Superior, about 1629, by Etienne Brulé; Michigan, in 1634, by Jean Nicolet; Erie, probably by Joliet, in 1669. It seems somewhat remarkable, from the positions of the lakes, that Erie should have been the last of the five to come under the dominion of the white men. The reason is this. It lay deep in the recesses of a hostile country, guarded by the "Romans of the West," the Iroquois or Five Nations. From Montreal the course of the French missionaries and traders westward was up the Ottawa river, the route to the upper lakes which was followed by the Hurons.

Joseph Le Caron, the Franciscan friar, who first discovered Lake Huron, reached Quebec in May, 1615, with three other Franciscans. To Le Caron was assigned the district of the Hurons as his mission field. His garb was the customary rude garment of coarse, gray cloth, girt at the waist with a knotted cord, and surmounted by a peaked hood. He was shod with wooden sandals an inch or more in thickness. He hastened at once to the site of Montreal, mingled with the savages there assembled for annual trade, learned their

language and resolved to winter in their villages. Accompanied by twelve Frenchmen he set out about July 1, 1615, with the concurrence of Hurons up the Ottawa river, and after many hardships reached the seat of the Huron nation, near the entrance of the bay of Matchedash. Here within an area of thirty or forty miles were many Huron villages, containing a population variously estimated at from 10,000 to 30,000 inhabitants.

*Champlain's Voyage.*—Champlain, with two canoes, two Frenchmen and ten Indians followed Le Caron a few days later, and in his narrative describes the journey by way of Lake Nipissing, and thence down its outlet until along the western sky was traced the watery line of the "Fresh-Water Sea" of the Hurons, the Mer Douce or Lake Huron, and southward spread the shores of the Georgian Bay. For more than a hundred miles Champlain followed its dented outlines; thence following an Indian trail inland his eyes soon beheld a scene of cultivated fields, and palisaded villages, the ancient home of the Hurons. Here he met Le Caron, and from this center Champlain led the Huron braves the same year in an unsuccessful campaign against their enemies, the Iroquois, below Lake Oneida, probably crossing Lake Ontario *en route* from the mouth of the river Trent to a point of land west of Hungry bay.

A controversy has arisen among historians as to the route which Champlain took in 1615 across Lake Ontario. Dr. John Gilmary Shea, of New York, and Gen. James S. Clark, of Auburn, N. Y., basing their opinions partially upon a map printed to the 1632 edition of Champlain's account of the expedition, say the starting point was from what is now Kingston. O. H. Marshall and others have contended that it started from the mouth of river Trent, opposite Point Pleasant. Champlain gives the distance across as fourteen leagues or thirty-five miles. He says they crossed the lake, and from this statement it is argued that they did not merely skirt its edges. This is the first recorded visitation of Lake Ontario by a white man. The Hurons had expected with the aid of Champlain and the few Frenchmen accompanying him, armed with terror-inspiring and death-dealing muskets, to utterly put to rout their ancient enemies, the Iroquois. They concealed their canoes in the forest on the shores of Lake Ontario, and proceeded cautiously inland. The village of Onondaga, near Lake Oneida, was attacked October 10, 1615. It was protected by palisades, and although the Frenchmen did execution with their firearms, the Hurons were undisciplined and fought in their own disordered and disconnected manner, disregarding the instructions of their French leader. Champlain was wounded, and the party finally retired. Finding their canoes unharmed, they recrossed Lake Ontario, and Champlain passed the winter with the Hurons in the vicinity of Lake Simcoe. This attack upon the Iroquois fanned their hatred against the French. It smoldered for a generation, and then burst out in a fierce flame of destruction.

*Lake Superior Discovered.*—Etienne or Stephen Brulé had served Champlain as an interpreter in his journey to Lake Huron, but did not return with him. Sagard mentions that Brulé, with another Frenchman, Grenoble, made a long journey and returned with an ingot of red copper and with a description of Lake Superior. He said it required nine days to reach its upper extremity, and that it discharged itself into Lake

Huron by a fall. This trip was made prior to 1629, and to Brulé, the unlettered and adventurous voyageur, is probably due the credit for the discovery of the grandest of all the inland lakes.

Raymbault and Jogues, two missionaries, made a voyage on Lake Superior in 1641 in search of a passage to China, and to them is often credited the earliest white navigation of Lake Superior.

*Nicolet First Navigates Lake Michigan.*—Jean Nicolet, an employe of the fur company, known as the "Hundred Associates," in the summer of 1634 threaded his way in a birch canoe from Georgian Bay through the straits of Mackinaw, and thus discovered Lake Michigan. Turning southward, he reached Green bay, and was impressed with its length and vastness. Here dwelt the people of the salt or bad-smelling water, neither Algonquin nor Huron, who said they had come from the shores of a far-distant sea in the West, whose waters were salt, and who called themselves "the people of the stinking water." Calling a council of these Winnebagoes and neighboring tribes, Nicolet arrayed himself in a robe of damask China, gorgeously worked with birds and flowers, and, firing pistols from both hands, declared that he had come among them for peace. He awed the rude savages, and was invited to a royal feast.

*A Down Trip on Lake Erie.*—Singular as it may appear, the first known trip on Lake Erie by white men was a down passage. Joliet had in 1669 made a voyage from Montreal, via Lake Nipissing, to Lake Superior in search of copper, and to discover a more direct route from Lake Superior to Montreal. At Sault Ste. Marie he found among the Ottawas an Iroquois prisoner, and obtained permission to take him back to Canada. The Iroquois guided him from Lake Erie through the Grand river valley to Lake Ontario, where near Burlington bay he met La Salle and two Sulpitian priests. It was a strange and unexpected meeting. La Salle had started westward on a tour of extended exploration, and, doubtless, listened eagerly to the information imparted by Joliet. The latter must have descended the Detroit river, and



sailed eastward along the north shores of Lake Erie. The latter body of water had been known to the French as early as 1640, but there is no record of its navigation by white men till this accidental meeting of Joliet and La Salle. What the conversation with Joliet was, is not known. It changed, however, the plans of La Salle. He was seeking a passage to the Pacific coast, and, doubtless, learning from Joliet of the connection between Lake Erie and the upper lakes, he resolved to explore the great river (Ohio) flowing westward to the south of the lakes, leaving the Sulpitian priests to pursue, unattended by him, their journey to the Pottawatomies on the shores of Lake Michigan.

*First Passage through Detroit River.—*

The first recorded passage of white men through the Detroit river was made in 1670 by these Sulpitian priests. When they parted company with La Salle in September, 1669, and descended Grand river to Lake Erie, they found it tossed by an angry storm and wisely resolved to delay until the following spring their journey to the Pottawatomies. Building a log cabin and collecting a supply of nuts and fruits, they subsisted comfortably upon these and the game which they obtained. In early spring they proceeded up the lake, but encountered many trials. While encamped one night near Point Pelee, a storm suddenly arose and swept away much of their baggage, which had been carelessly left at the water's edge. Among the lost effects was their altar service, a misfortune ascribed to the malignity of the evil one. Entering Detroit river, they landed near where the city of Detroit now stands. Here they discovered a large stone, rudely featured like a human being, daubed with paint and worshiped by the heathenish Indians as a Manitou. The sight of the hideous idol aroused their anger. "After the loss of our altar service and the hunger we had suffered," writes Galinée, "there was not a man of us who was not filled with hatred against the false deity. I devoted one of my axes to breaking him to pieces; and then, having fastened our canoes side by side, we carried the largest piece to the middle of the

river and threw it, with all the rest, into the water that he might never be heard of again. God rewarded us immediately for this good action, for we killed a deer and a bear that same day." Joliet had, doubtless, passed down the river previously on his return from the upper lakes, but the usual route of the Jesuits and fur traders was by way of the Georgian Bay. The enmity of the fierce Iroquois had closed the Niagara portage against them. The two Sulpitian priests, Galinée and Dollier, followed the eastern shores of Lake Huron, passed near the great mission of the Hurons, which had been destroyed twenty years before, passed the Manitoulins, and reached Sault Ste. Marie May 25, 1670. Here they found the Jesuits, Dablon and Marquette, living in a square fort and surrounded by a few Indians, some of whom they had baptized. The welcome was cold, and soon after, accompanied by a French guide, the Sulpitians started for Montreal, which they reached June 18.

EARLY EXPLORATIONS ON THE RIVER  
ST. LAWRENCE.

Having thus outlined the successive discoveries of the Great Lakes, it will perhaps be of interest to return and briefly relate the earlier exploration on the St. Lawrence.

Columbus discovered America in 1492, and from that time on bold mariners at different times and places sought adventure and fortune in the New World. While the Spaniards were the energetic explorers of the southern part of the continent of North America, the French were the first to visit and penetrate the regions north and south of the Great Lakes. In 1508, it is claimed by Desmarquets and others, Thomas Aubert passed up the St. Lawrence river to a distance of eighty leagues. If this be correct it was the first exploration of that river by any European. The French had established a fishing station just within the Straits of Belle Isle, which they called Brest, early in the sixteenth century, but it is difficult to determine the date, and there is some evidence that the Portuguese explored the region of the mouth of the St. Lawrence early in the same century. And it is well known that the great volume of water flow-

ing into the Gulf of St. Lawrence from the St. Lawrence river suggested to early explorers that an immense continent lay to the west. This supposition arose first from Verrazano's experience on the coast in 1524, which was the first decided and official manifestation of French activity in this region.

King Francis I of France intended to follow up this voyage of Verrazano, but the political exigencies, in which he found himself involved at the time, caused considerable delays, and it was not until ten years afterward that he commissioned Cartier to visit and explore the country west of Newfoundland, and to add glory to the flag of France. Cartier left St. Malo in April, 1534, and arrived off Newfoundland, May 10. On May 27 he was at the opening of the Straits of Belle Isle, near which place he met a ship from La Rochelle, and some of the natives of the region. Turning south he followed the inner coasts of Newfoundland, and afterward steered westwardly, passed the Magdalene Islands to Prince Edward Island, whence he headed north, and on July 2 reached the Bay of Chaleur, which he named from the excessive heat he experienced in that bay. After making the circuit of the gulf, he passed again out to sea, August 15, and early in September entered the harbor of St. Malo.

Cartier started on his second voyage May 19, 1535, with three ships and 110 men, reaching the little harbor of Blanc Sablon late in July. Not long afterward he entered, on the north shore between Anticosti island and the mainland, a harbor, which he named the St. Lawrence, the first appearance of this name, which was to be the name of the great gulf between Newfoundland and the mainland, and also of the great river draining the Great Lakes. He gave the name to Assumption island August 15; and passing on to the westward found himself at last in the St. Lawrence river. September 1 he was opposite the mouth of the Saguenay river, where he met some Indians in canoes, who were encouraged to come near his ships from the fact of his having two Indian interpreters on board. Leaving the Saguenay without exploring it,

he continued up the main stream to the Isle aux Coudres, where he remained some time. On Sunday, September 7, religious services were conducted, though there was no priest in his party. At last the ship reached the island, which he named the Island of Bacchus, from the number of vines he saw festooning the forest trees. He found a wintering place a short distance above the St. Charles river.

On September 19, Cartier started on up the St. Lawrence river in the Emerillon, one of his three ships, having along with him fifty men, and reaching Lake Angouleme on the 28th. Above this lake the current of the river was so strong that the Emerillon could not ascend, and so Cartier with a picked crew went forward in two boats. On October 2, he drew his boats up beside a piece of level land, and found he was but three miles below an Indian village named Hochelaga, where he was met by large numbers of Indians, offering food, and manifesting delight at the presence of the white strangers. This village of Hochelaga was a short distance below the eminence, to which Cartier gave the name of Mont Royale, and the capital town, which now occupies the site of Hochelaga, is a reminder of the first European who surveyed the site of Montreal. After remaining here a short time, he exchanged courtesies with his new found Indian friends, took his boats for his galley, which he reached October 4, and on the 11th was again in the Havre de Sainte Croix, as his station on the St. Charles had been named.

Cartier made his third voyage to the St. Lawrence in 1541, and Roberval followed in 1542, but in each case with little result.

After a futile attempt at colonization by Francis Gravé, or Pontgravé, as he was more frequently called, in 1600, the most commanding figure in the early history of Canada and the St. Lawrence river, comes upon the scene in the person of Samuel de Champlain, who on March 15, 1603, with Pontgravé sailed from Honfleur. On June 7, Champlain started to explore the Saguenay, and on the 23d he saw the famous

Falls of Montmorency. On the 29th he entered and named St. Peter's Lake. Failing to get beyond the Lachine rapids, he endeavored to learn from the Indians what lay beyond. They told him of the Ottawa river, and also told him that by following up the St. Lawrence and passing rapids and expansions of the stream, he would reach a large body of water flowing through a channel broken by a cataract, and above this cataract there was a salubrious lake. At the farther end of this lake it received a river through which the boatman could push his skiff into an immense sea of salt water.

Champlain, from this description, in his fancy visited the waters of Lake Ontario, the Niagara river, whose falls he never saw, then Lake Erie, and thence the Detroit river to Lake Huron, which he afterward knew so far as Georgian Bay was concerned. Shortly afterward he returned to Tadoussac, and then to the mouth of the Saguenay, where he found the ships laden with furs and ready for the homeward voyage.

The next expedition to this part of North America was that of Demonts and Champlain, in 1608, the latter of whom reached Tadoussac June 3, and there set to work to build a shallop of about fourteen tons, in which he soon afterward made his way up the St. Lawrence river, and almost immediately afterward founded the town of Quebec. Here he discovered a plot to murder him, and meted out punishment in the most summary manner to the ringleaders in the conspiracy, hanging one and putting three of them in irons. After making one or two voyages across the Atlantic, which resulted in but little of interest, he again set sail for the New World April 24, 1615, his ship being again commanded by Pontgravé. This time he was accompanied by six priests of the Recollect order, named Dennis Jamay, John d'Olbean and Joseph le Caron, and a lay brother named Pacificus du Plessis.

The ship reached Quebec in May, and a chapel was at once erected, in which the priests said their first mass on June 15. Jamay remained at the settlement, D'Olbean went to the Montagnais, and Le Caron

to the Hurons. The Iroquois Indians then occupied the region immediately south of the upper St. Lawrence and Lake Ontario, and further to the west and south were the Hurons, the Tobacco nation, the Neuters, the Eries and the Andastes. Champlain had previously incurred the hostility of the Iroquois. His voyage to Lake Huron and passage across Lake Ontario have been recited above.

*The Discoverer of Lake Michigan.*—Nicolet, the discoverer of Lake Michigan, was a young Norman, who came to this country first in 1618. He was sent, in 1634, by Champlain west among the Indians to further learn their language and customs. Having already been for about sixteen years among the Iroquois and Nipissings, he was well qualified for his new mission. Nicolet's peculiar mission at this time was to learn something definite about those distant western people, who had neither hair nor beard, and who journeyed in great canoes, and who lived by the great salt sea. His course lay up the Ottawa and by Lake Nipissing to Georgian Bay, and thence to the Huron villages. Here he renewed old acquaintances and secured seven guides from among the Hurons, and, launching their canoes at the head of Georgian Bay, they skirted the eastern and northern shores of Lake Huron until they found their progress checked by the rapids in the Sault Ste. Marie.

From the Sault Nicolet retraced his steps, and, following the shore of the northern peninsula of Michigan, soon came to the Straits of Mackinac, just a century after Cartier reached the great northern gateway to the interior of the continent at the Straits of Belle Isle. From the Straits of Mackinac, Nicolet passed on to Green bay, and at length reached its southern extremity. Here he encountered the Winnebago Indians, who looked upon him as a strange spirit, as he stalked among them in his robe and carrying his pistols, which every little while belched forth fire and smoke.

The Winnebagoes were the first Indians that he had met that were of the Dakotah stock, and he could not well under-



stand them, as he had not learned their language, the Algonquin and the Huron languages being the only ones that he had thus far acquired. Still he managed to make them understand that his message was one of peace and good will, in which spirit he was received, and the professions on each side were enforced and fortified with feast and speech.

On his return down Green bay Nicolet exchanged friendly courtesies with the Potawatomies, who were then scattered along the western shore of Lake Michigan, and passed on back toward Three Rivers by the way he had gone. At length he reached the Ottawa, and went on down that river to Three Rivers, reaching this place some time in July. On December 25, 1635, Champlain died of paralysis at Quebec, he who has been appropriately styled the Father of Canada.

*Discovery of Niagara Falls.*—Many of the early explorers made references to the Niagara region and river, even before any white man had seen them, these writers having received their information from the Indians. Champlain, in his work published in 1603, mentions a fall which is believed to be Niagara Falls, and in his work published in 1613 he locates on a map a river which is believed to be the Niagara, and in that river he marks a Sault d'eau, or waterfall. Etienne Brulé, who was with Champlain as interpreter, was in the vicinity of Niagara in 1615, and some think he may have seen the Falls, and if this be true he was probably the first white man to see these great wonders.

In 1626 Joseph de la Roche Dallion was on the Niagara river engaged in a mission among the Neuter Indians. In 1632 Champlain locates a waterfall very high at the end of Lac St. Louis (Ontario). In the Jesuit Relations, published in 1642, L'Allement mentions the Neuter nation of Indians (Onguiaahra) as having the same name as the river on which they lived. In 1649 Ragueneau speaks of "Lake Erie which is formed by the waters of Lake Huron and which discharges itself into a third lake, called Ontario, over a cataract of fearful height." De Creuxius, mentioned

elsewhere in this work as giving Latin names to the five Great Lakes, locates the Niagara region, and calls the Falls "Ongiara Cataractes."

However, Galinée, who was with La Salle in 1669, at the western end of Lake Ontario, gives the first description that is known to exist of the Great Falls, but which he never saw. He says: "We found a river one-eighth of a league broad and extremely rapid, forming an outlet or communication from Lake Erie to Lake Ontario. The outlet is forty leagues long, and has from ten to twelve leagues above its embouchure into Lake Ontario the finest falls of water in the world; for all the Indians whom I have inquired about it say that the water falls at that place from a rock higher than the tallest pines, that is about 300 feet."

In 1678 Father Hennepin visited the Falls, and in 1683 he published his first work in which he places the height of the falls in the Niagara river at 500 feet. In 1697 he published another work called the "New Discovery," in which he gives a description of the Falls, beginning as follows: "Betwixt the Lakes Ontario and Erie, there is a vast and prodigious cadence of water, which falls down after a surprising and astonishing manner, insomuch that the universe does not afford a parallel." In the same work he gives the height at 600 feet. From the time of this publication, which was translated into many of the languages of Europe, most Europeans became familiar at least with the name of this great natural wonder.

In 1721 Charlevoix and Borassow, each independently of the other, made accurate measurements of the height of the Falls.

While these early discoveries, thus related, are the records that have been preserved, it is far from improbable that the first explorers were fur-traders, trappers and voyageurs who had neither ability nor inclination to record their wanderings, nor would these prior journeyings be likely to be mentioned in subsequent writings, for they would detract from the latter explorations, and possibly jeopardize claims.

By the close of Champlain's activity the

forces in New France which were destined to affect for almost two centuries the history of the Great Lakes might all have been seen in embryo. The Jesuits were engaged in their heroic but ineffectual efforts to Christianize the savages. The fur trade had excited the cupidity of men, and Richelieu had already made it a monopoly by establishing the company of the "Hundred Associates." Copper to a lesser extent was an incentive to perilous exploration. The search for a route to China was a spur to the adventurous. France had laid claim to this vast territory. The deep hostility of the Iroquois had been incurred, and the great struggle with the English for the mastery of the lakes had been commenced.

#### THE FRENCH MISSIONS AND MISSIONARIES.

The missionary spirit was active in the Catholic Church in France when the early voyages of exploration were made to the New World, and side, by side with the adventurer in search of gain or fame came the priest, who held it his highest duty to convert the savage nations to Christianity. The Jesuits were first in the mission field of Canada, but they were soon followed by the Recollects, a reformed branch of the Franciscan order. With Champlain, in May, 1615, came four of the Gray Friars, and of these Joseph le Caron was appointed to labor among the Hurons on Georgian Bay. The Recollects invited the assistance of the Jesuit. These missions were scattered throughout New France, and quickly penetrated the region of the Great Lakes. Father Joseph de la Roche d'Aillon founded a mission among the neutral nations on the Niagara river, and urged the French to open up communication by way of Lake Ontario; but he spoke too soon.

The mission of the Hurons, begun in 1615 by the Recollects, was continued by the Jesuits. The Hurons dwelt in palisaded villages. Diligently the advocates of the better life labored, and heroically they endured the hardships and privations of the forest life, yet in 1640 they could claim but 100 Christians out of 16,000 Hurons. New stations were formed to the southward

among the neutrals, and to the northward among the Algonquin tribes.

*Iroquois Destroy Huron Missions.*—In the mid-summer of 1648 a band of Mohawks and Senecas entered the Huron country in the absence of the warriors, devastated one of their towns and scattered the inhabitants. During the following winter they fell on St. Ignace and made a still more dreadful havoc, and then one after another fifteen towns succumbed or were abandoned. The Hurons were in this way destroyed as a people, and the remnants of the tribe found lodgment in other tribes and nations, many of them being adopted by their conquerors. During the fierce irruption of the Iroquois, in 1648, several of the missionaries became martyrs to their religion. The venerable Brebeuf was inhumanly tortured to death, and Father Daniel fell riddled with arrows at the front portal of his chapel. A few of the missionaries fled with the Hurons before the gathered storm, but the mission was broken beyond repair. It had engaged the services of twenty-nine missionaries, seven of whom yielded up their lives in the cause.

Sated with the annihilation of their enemies, and harrassed with fresh wars with the Eries and Susquehannas, the Iroquois, about 1654, sought peace with the French and requested that missionaries be sent to them. The zealous and fearless priests responded promptly. It was only a lull in the active warfare of the Five Nations. Embroilments quickly followed, and after a few years of moderate success the Jesuits were compelled to abandon the missions in 1687, when the clouds of war looked blackest.

The route to Lake Superior was natural and easy from the missions on Lake Huron. In 1641 Fathers Jogues and Raymbault visited the Chippewas at Sault Ste. Marie. They found about two thousand Indians there encamped, a number of the Pottawatomies having joined the Ojibways, having been driven north by the Iroquois. From the Pottawatomies these priests heard of the tribe of Indians now known as the Sioux. Raymbault soon afterward died, and in reporting the event to his superiors in Paris, Vimont said that this good Jesuit father had intended to continue his course

westward to China, but that God diverted him to Heaven.

While returning to the St. Lawrence country the next year, Father Jogues was taken prisoner by the Iroquois, and he and his Huron companions soon found their canoes floating down toward Lake Champlain, and Jogues was thus the first European to see the wild beauties of Lake George. He was rescued in 1643 by the Dutch. He afterward went to France, and in 1646, having returned to his missionary labors among the wild sons of the forest, was killed by the Mohawks while on an errand of peace to that tribe, being treacherously struck down as he was entering a tent, to which he had been invited to partake of a feast.

*Missions on the Upper Lakes.*—The destruction of the Hurons or Wyandots by the Iroquois cut off communication between the St. Lawrence and the Upper Lakes. In 1656 Garreau, while on his way to the Ottawa country with a flotilla of Indians, was ambushed by the Iroquois and killed.

In August, 1660, the venerable Menard, a veteran of the Huron missions, set out with another Ottawa flotilla in search of the vanished tribe so broken in spirit that it concealed its habitations from even its friends. When he left Quebec, he took with him a scanty stock of necessities, "for I trust," said he, "in that Providence which feeds the little birds of the air, and clothes the wild flowers of the desert." He was past the meridian of life, but possessed all the zeal of youth. He went forth with the presentiment that he was performing his last journey, for, in writing back to a friend, he remarked: "In three or four months you may add my name to the memento of deaths." Having arrived at the Sault, he proceeded to coast along the southern shore in a canoe, and October 15 reached the head of Keweenaw bay, which he named St. Theresa—the day of his arrival being the anniversary day of that patron saint.

Deserted here by his Ottawa guides, the aged priest wrote: "Here I had the consolation of saying mass, which repaid me with usury for all my past hardships. Here

I began a mission, composed of a flying church of Christian Indians from the neighborhood of the settlement, and of such as God's mercy had gathered in here."

There he remained until the following spring, when he left, accompanied by a single Indian, for Chaquamegon bay, near the head of the lake. They took the route through Portage lake; and while the voyageur was conveying the canoe across the portage, the good Father wandered into the woods, and no trace of him was afterward obtained.

Claude Allouez was the next Jesuit missionary assigned to this remote region. He set out in the summer of 1665 with a flotilla of canoes and about 400 savages on their return from a trading voyage to Montreal, and reached Chaquamegon bay, on Lake Superior, October 1. At La Pointe du St. Esprit he began his first mission, and for thirty years afterward was a faithful apostle of Christ throughout the Lake Superior country. In his intercourse with the various tribes of the Algonquins, he heard of the "great water," which in Allouez's phonetic rendering took the form of "Mes-sipi," which river he was inclined to think entered Chesapeake bay. Here he fell in with a party of the Sioux nation, who represented their country as lying to the west of Lake Superior, and as being a prairie country.

Leaving the Ottawa mission at La Pointe in charge of Marquette, he proceeded, in 1669, to Green Bay, where he established the mission of St. Francis Xavier among the Sacs and Foxes, Pottawatomies and Winnebagoes. With Marquette he founded the Illinois mission, and traveled extensively among the tribes westward from the Great Lakes. Other missionaries were sent out, but progress was slow; lay-brothers, who were skilled artisans and workers of metal, had the greatest success on account of the material services they could render their converts.

In 1668 Marquette established the mission at the Sault Ste. Marie, the earliest in what is now the State of Michigan, where he was soon joined by Dablon, who, in September, 1669, was sent to La Pointe to re-



lieve Allouez, who from that place went to Green Bay to labor among the Indians and a group of *coureurs de bois* congregated there. In April, 1670, he ascended the Fox river, and found Indians on Lake Winnebago, mourning losses inflicted on them by the Senecas. On the Wolf river, an affluent of the Fox river, he founded the mission of St. Mark, and for some time ministered at both missions. Later he reached the head of the Wisconsin, and states that that river leads to the great river "Messisipi."

At La Pointe, Marquette was not satisfied. He had the remnants of the Hurons and Ottawas about him, and bands of the Sioux came to visit him there. A war between the Hurons and the Sioux delayed Marquette in carrying out his plan to go south among the Illinois, to found a mission among them. He was also determined to go to the great river and descend to its mouth, in order to settle the great question as to the ultimate direction of its flow. But the difficulty between the Hurons and the Sioux drove the former tribe and the Ottawas away from La Pointe, and La-Salle went to the Sault, where Dollier found him in 1670. In 1671 he was among the Hurons on the north side of the Straits of Mackinac, where he founded the mission of St. Ignace. About the same time another priest, Louis Andre, who had joined Marquette at La Pointe, settled with the Ottawas on their retreat to the great Manitoulin island.

Marquette died in the spring of 1675, by the side of a little stream, which enters the west side of Lake Michigan, and a few months later his remains were taken by some of the Ottawa Indians, who knew him and loved him well, to the mission at St. Ignace, and were there buried beneath the little mission chapel.

When the Hurons fled from the wrath of the Sioux to Mackinaw, the mission there was in its most flourishing condition. Between 1670 and 1680 it included 500 Huron, and 1,300 Ottawas, and was then located at Point St. Ignace.

When Canada became an English pos-

session, the work of the Jesuits in that country was practically ended.

The scene of Longfellow's beautiful poem, *Hiawatha*, is among the Ojibways, on the southern shore of Lake Superior, in the region between the Pictured Rocks and the Grand Sable. The poet, in the following verses, relates the coming of the missionaries:

By the shores of Gitche Gumeew,\*  
By the shining Big-Sea-Water,  
At the doorway of his wigwam,  
In the pleasant summer morning,  
Hiawatha stood and waited.

\* \* \* \*

O'er the water floating, flying,  
Something in the hazy distance,  
Something in the mists of morning,  
Loomed and lifted from the water,  
Now seemed floating, now seemed flying,  
Coming nearer, nearer, nearer.

\* \* \* \*

It was neither goose nor diver,  
Neither pelican nor heron,  
O'er the water, floating, flying,  
Through the shining mist of morning,  
But a birch canoe with paddles,  
Rising, sinking on the water,  
Dripping, flashing in the sunshine;  
And within it came a people  
From the distant land of Wabun,  
From the farthest realms of morning  
Came the Black-Robe chief, the Prophet,  
He the Priest of Prayer, the Pale-face,  
With his guides and his companions.

And the noble Hiawatha,  
With his hands aloft extended,  
Held aloft in sign of welcome,  
Waited, full of exultation,  
Till the birch canoe with paddles,  
Grated on the shining pebbles,  
Stranded on the sandy margin,  
Till the Black-Robe chief, the Pale-face,  
With the cross upon his bosom,  
Landed on the sandy margin.

\* \* \* \*

Then the Black-Robe chief, the Prophet,  
Told his message to the people,  
Told the purport of his mission,  
Told them of the Virgin Mary,  
And her blessed son, the Savior,  
How in distant lands and ages  
He had lived on earth as we do;

---

\*Lake Superior.

How He tasted, prayed, and labored;  
 How the Jews, the tribe accursed,  
 Mocked him, scourged him, crucified him;  
 How He walked from where they laid him,  
 Walked again with his disciples,  
 And ascended into heaven.

And the chiefs made answer, saying:  
 "We have listened to your message,  
 We have heard your words of wisdom,  
 We will think on what you tell us.  
 It is well for us, O brothers,  
 That you came so far to see us!"

Then they rose up and departed  
 Each one homeward to his wigwam,  
 To the young men and the women  
 Told the story of the strangers,  
 Whom the Master of Life had sent them  
 From the shining land of Wabun.

"The record of the Jesuit missionaries in French North America," says John Gilmary Shea in the "Narration of Critical History of North America," "is a chapter full of personal devotedness, energy, courage and perseverance; none can withhold the homage of respect to men like Jogues, Brebeuf, Garmer, Allouez and Marquette. Men of intelligence and education, they gave up all that civilized life can offer to share the precarious life of wandering savages, and were the first to reveal the character of the interior of the country, its soil and products, the life and ideas of the natives and the system of American languages."

Another historian pays them this tribute: "One of the noblest chapters of the Jesuits deals with the heroic devotion of its missionaries in the woods of America. They were appalled at no perils, shrank from no toils. Men educated in the learning of their time traversed the gloomy forest, and set up the cross at the farthest shores of the Great Lakes. They lived in the smoky huts and dined on the disgusting food of the savages; torture and burning only called out renewed devotions."

"Allouez, Marquette and Jogues," says another writer, "were remarkable men, and had their lots been cast in a different sphere they would have left a more durable impress upon the age in which they lived. Their efforts to win the tribes of the northwest to the standard of the cross, prosecuted with great zeal, and under circum-

stances of privation and suffering, may be regarded as abortive. There is something impressive in the rites of the Catholic church—something in its mysteries calculated to overawe the wild men of the woods. So long as the missionary was in their midst and superintended their labors, they yielded to his guidance and adopted his recommendations, so far at least as conduced to their comfort; but when he withdrew, with equal facility they glided into their former habits. The superstructure, raised with so much care fell to the ground the moment the sustaining hand was withdrawn."

Speaking of the failure of the missionaries to attain the success which they deserved, Mackenzie, an English traveler, in 1801, remarks that the Canadian missionaries should have been contented to improve the morals of their own countrymen, so that by meliorating their character and conduct they would have given a striking example of the effect of religion to the surrounding savages. "The whole of their long route I have often traveled," he continues, "and the recollection of such a people as the missionaries having been there was confined to a few superannuated Canadians, who had not left that country since the cession to the English in 1763, and who particularly mentioned the death of some, and the distressing situation of them all."

*Parkman's Estimate.* — Parkman, in summing up the efforts of the Jesuits in Canada, says: "With the fall of the Hurons, fell the best hopes of the Canadian mission. They, and the stable and populous communities around them, had been the rude material from which the Jesuit would have formed his Christian empire in the wilderness; but one by one these kindred people were uprooted and swept away while the neighboring Algonquins, to whom they had been a bulwark, were involved with them in a common ruin. \* \* \* The cause of the failure of the Jesuits is obvious. The guns and tomahawks of the Iroquois were the ruin of their hopes. Could they have curbed or converted those ferocious bands, it is little less than certain that their

dreams would have become a reality. Savages tamed—not civilized, for that would have been impossible—would have been distributed in communities through the valleys of the Great Lakes and the Mississippi, ruled by priests in the interest of Catholicity and of France. Their habits of agriculture would have been developed, and their instincts of mutual slaughter repressed. True to her far reaching and adventurous genius, New France would have occupied the West with traders, settlers and garrisons, and cut up the virgin wilderness into fiefs, while as yet the colonists of the English were but a weak and broken line along the shore of the Atlantic; and when at last the great conflict came, England and Liberty would have been confronted, not by a depleted antagonist, but by an athletic champion of the principles of Richelieu and of Loyola.

"Liberty may thank the Iroquois that, by their insensate fury, the plans of her adversary were brought to naught, and a peril and a woe averted from her future. \* \* \* Meanwhile let those who have prevailed yield due honor to the defeated. Their virtues shine amidst the rubbish of error, like diamonds and gold in the gravel of the torrent."

#### THE FUR TRADE.

For a century and a half after the discovery of the Great Lakes their commerce was chiefly furs. It was a valuable trade. The lakes penetrated inland nearly a thousand miles, and by means of portages gave ready access to a still wider scope of country, inhabited only by roving bands of savages and wild animals. When the Canadian settlements were established, trade quickly sprang up with the natives, and the Indians made voyages from the upper lake region to Montreal to exchange furs and peltries for the weapons and cheap ornaments of the immigrants. For a long series of years Montreal was the center of a large and profitable trade. Thousands of Frenchmen of all grades of life came over to better their fortunes, and ships bearing the white banners of France crossed the Atlantic, carrying westward passengers and supplies

and returning with a freight of peltry. The earliest demand was supplied by the Indians near by. As the helpless beaver, mink and otter became exterminated, the hardy "voyageurs" pushed and rowed their bateaux in all directions, yet made their home in Montreal, where they spent the winters in rioting on the savings of the summers. Still later it was necessary to establish frontier stations to serve as outposts for the merchants of Montreal, and this movement it was that stimulated exploration.

The fur-trader, the wild, daring wood ranger, or *coureur de bois*, was the pioneer of New France; in his footsteps followed the priest. The trading post and the mission house are the twin types of the French occupation on the shores of the lakes.

"The rich peltries of North America," said the late Frederick Gunther, of New York, in an article on the fur trade in "One Hundred Years of American Commerce," "were the magnet holding forth the promise of commercial gain, that drew hitherwards the pioneers and precursors of civilization. The Canadian provinces owe their first start on the road to prosperity to the fur trade. The French pioneers discovered that as the Indians were ignorant of the value of the furs which they accumulated, an enormous profit was possible to the successful trader in these articles. In the infancy of this industry there was absolutely no limit to the percentage of profit, as the Indians would exchange the most valuable peltries for European trinkets, that were worth nothing except the cost of transportation."

The Indian fur trade is thus described by Colder in his memorial: "The Indians make a long narrow boat, made of the bark of the birch tree, the parts of which they join very neatly. One of these canoes, that can carry a dozen men, can be carried on the shoulders of two men, so that when they have gone as far by water as they can (which is further than is easily to be imagined, for their loaded canoes don't sink six inches into the water) they unload their canoes and carry both goods and canoes upon their shoulders overland, into the nearest branch of the river they intend to follow. Thus the French have an easy



communication with all the countries bordering upon the river St. Lawrence and its branches, with all the countries bordering upon these inland seas, and can thereby carry their burdens of merchandise through all these large countries, which could not by any other means than water carriage be carried through so vast a tract of land. By means of the Mississippi river and the lakes there is opened such a scene of inland navigation, as cannot be paralleled in any other part of the world."

The fur trade of Canada produced a class of men hardy, agile, fearless and in habits approximating the savage. Inured to toil, the voyageurs arose in the morning, "when it was yet dark," and, pushing their birch bark canoes into the water, swiftly glided away "like the shade of a cloud upon the prairie, and often did not breakfast till the sun had been for hours above the horizon." Halting for a short period they partook of their coarse fare, then re-embarking they pursued their voyage to the land of the beaver and buffalo, the woods echoing their chansons until the shades of night began to fall.

Parkman thus described the traders: "The fur trade engendered a peculiar class of men, known by the appropriate name of bush rangers, or *coureurs de bois*, half-civilized vagrants, whose chief vocation was conducting the canoes of the traders along the lakes and rivers of the interior. Many of them, shaking loose every tie of blood and kindred, identified themselves with the Indians, and sank into utter barbarism. The borders of the English colonies displayed no such phenomena of mingling races. The English fur-traders, and the rude men in their employ, showed, it is true, an ample alacrity to fling off the restraints of civilization, but, though they became barbarians, they did not become Indians."

The character of many of these voyageurs gave great offense to the missionaries, and in their estimations seriously jeopardized the success of religious labor among the natives. Complaints were made, and the Canadian Government finally decreed that no one should trade with the Indians unless

provided with a license. These licenses were granted to officers and others, who had influence at court, but in prosecuting their privileges they often employed the voyageurs, who were objectionable to the missionaries, and thus defeated the object of the restrictions.

Cardinal Richelieu afterward organized the company of the Hundred Associates to colonize and monopolize the fur trade of New France. Restrictions continued throughout the French régime. Henry, the English trader, says: "Under the French government of Canada, the fur trade was subject to a variety of regulations, established and enforced by royal authority; and, in 1765, the period at which I began to prosecute it anew, some remains of the ancient system were still preserved. No person could go into the countries lying north-westward of Detroit, unless furnished with a license; and the exclusive trade of particular districts was capable of being enjoyed, in virtue of grants from military commanders."

Two of the most famous men among the early hunters and trappers were Nicholas Perrot and Daniel Greysolon Duluth, the latter of whom was a kind of Canadian Robin Hood, and like any other forest chieftain had his band of forest rangers. For years he wandered through the northwestern forests, founded posts at various important points, where the fur trade could be prosecuted with advantage, and was so fortunate as to have a city named in his honor.

In 1654 two French traders went to the country west of Lake Michigan, and in August, 1656, they led back a flotilla with furs, reaching Quebec; but it is not known who these Frenchmen were. In 1658-59 Grosseilliers went to the shore of Lake Superior, and there fell in with some of the Sioux, who told him of a great river far to the west. Being on the St. Lawrence in 1659, he was joined by Radisson, a new expedition was formed, and the two started west with an escort. They reached the Pictured Rocks, which Radisson claimed to have seen first of any Christian. They went on to La Pointe (now Ashland), and

there remained for some time, while their Huron guides paid a visit south to some of their kinsmen. Where the two Frenchmen went from La Pointe is uncertain. Radisson says: "We went to the great river which divides itself into two parts where the Hurons had retired. The river is called the Forked, because it has two branches, one toward the south the other toward the west, the southern branch we believe reaching Mexico."

If they really saw the Mississippi at this time, they saw it about a dozen years before it was visited by Joliet. Afterward they wandered around the western end of Lake Superior, and were the first to define its limits in that direction. Here they found themselves among the Dakotahs, in whose language they fancied they detected traces of the Chinese accent.

In 1660 Grosseilliers and Radisson led a flotilla of sixty Lake Superior canoes back to Three Rivers, where the ships gladly received their complement of furs. In August following, Grosseilliers started west once more with a new outfit, accompanied by several Frenchmen, giving escort to the aged Jesuit missionary, Rene Menard, and passed the winter on the southern shore of Lake Superior, on Keweenaw bay, at a mission called St. Theresa's, among the Ottawas. These Indians proving rather intractable, Menard started with a single servant and a few companions to seek a remnant of the Hurons, who were living in what is now Wisconsin. The route was intricate, crossing many sluggish streams, tangled swamps and portages, in consequence of which the aged priest lost the trail of his companions, and was never heard of more.

Radisson and Grosseilliers were unlicensed traders. It is related that their goods were seized by the French, which so enraged them that they went to Eng and induced the formation of the Hudson Bay Company, one of the early causes of friction between the French and English in the New World.

*Explorations of the Trader Joliet.*—Joliet, one of the most successful traders, was selected by Talon, intendant of Canada,

to explore the "great water," of which there had been many reports, west of the lakes. He was calm and dispassionate in temperament and inflexible in purpose, well adapted to the mission for which he was chosen. In the spring of 1673 Joliet and Father Marquette, with five compatriots, started in two canoes on their journey through the wilderness, which stretched far beyond what is now called Green bay. Ascending the Fox river, they obtained Indian guides to lead them across the portage to the Wisconsin river, which flowed southwesterly and emptied into the great river, in search of which so many former explorers had failed of success. Upon the placid bosom of the Wisconsin they gently sailed down to the Mississippi, finding themselves upon this great water about a month after leaving St. Ignace. Going down the Mississippi, as far as the mouth of the Arkansas river, they became satisfied that the Mississippi did not, as had been for many years supposed, lead into the Gulf of California, but instead into the Gulf of Mexico. They therefore decided to retrace their steps, and coming to the mouth of the Illinois river they passed up that stream, followed the Des Plaines river, crossed the Chicago portage, and at last found themselves at the southern extremity of Lake Michigan. It was then the end of September, and Joliet did not reach Canada until the following summer, when, passing down the St. Lawrence in his canoe, just after running the La Chine rapids, his boat was capsized and he lost all the original notes of his journey. Count Frontenac, however, received from him a full verbal account of his explorations, which he sent to France.

*Copper in the Lake Superior Regions.*—Cartier, the daring navigator, when he reached the site of Montreal, in 1535, listened to descriptions of the country from which the Indians obtained red copper, reached by the Ottawa river.

To the incentive of the fur trade a new impulse was added, when, in the spring of 1609, some Algonquins visited the trading post (Montreal), and one of the chiefs exhibited a sheet of copper one foot in length, of pure quality, and told how it came from

the banks of a tributary of a great lake, and how it was their custom to melt the lumps and roll them into sheets with stones.

The ingot of red copper which Brulé, at some time prior to 1629, carried to Montreal, still further aroused interest in that metal.

Pierre Boucher, in a little book published in Paris in 1663, wrote: "In Lake Superior there is a great island, which is fifty leagues in circumference in which there is a very beautiful mine of copper." He also stated that he had heard of other mines from five Frenchmen lately returned, who had been absent three years, and that they had seen an ingot of copper, which they thought

weighed more than 800 pounds, and that Indians after making a fire thereon would cut off pieces with their axes. Father Allouez discovered pieces of pure copper, weighing from ten to twenty pounds. In 1669 Baron La Houton visited the lake and described the copper. Charlevoix passed through the region on his way to the Gulf of Mexico in 1721, and mentioned the mines in his "Journal of a Voyage to North America."

Various explorations were made by the French in search of copper in the Lake Superior region, but the industry was not actually developed during their administration of the inland seas.

## CHAPTER VII.

### STORY OF LA SALLE AND THE GRIFFIN.

CHARACTER OF LA SALLE, THE INTREPID EXPLORER—SEEKS A PASSAGE TO CHINA—EARLY LIFE OF LA SALLE—STARTS FOR THE WEST WITH DOLLIER—CHANGE OF PLAN—FORT FRONTENAC IS BUILT—RECEIVES A ROYAL GRANT—BUILDS THE FRONTENAC—THE GREAT VOYAGE BEGUN—BUILDING THE GRIFFIN—SHE IS LAUNCHED—THE GRIFFIN SETS SAIL—DESCRIPTION OF THE VOYAGE—STORM ON LAKE HURON—TOUCHES AT MICHILIMACKINAC—ARRIVES AT GREEN BAY—STARTS ON HER RETURN VOYAGE—VARIOUS ACCOUNTS OF HER PROBABLE FATE—LA SALLE'S SUBSEQUENT TRAVELS—HIS UNTIMELY FATE—FIRST VESSEL ON LAKE SUPERIOR.

OF ALL the names that shed luster upon French discovery in America that of La Salle alone ranks with Champlain. On the Great Lakes he is best known as the owner and master of the Griffin, the famous craft of about sixty tons, which was the first vessel to spread its sails on Lakes Erie, Huron and Michigan, and which excited the deepest emotions of the Indian tribes, then occupying the shores of these inland waters.

The key to the character of La Salle has never been fully revealed. Conquest was his passion, and to this purpose he applied the energy and strength of a remarkable nature, accomplishing results few would have attempted. He was taciturn, trusted only himself, lacked sympathy and made

enemies. Cavalier de la Salle, says Parkman, stands in history like a statue cast in iron.

His aim in the western world was to discover a passage to far Cathay to oriental trade and wealth in China and Japan, the ignis fatuus that stimulated the exertions of many early American explorers. On reaching Canada he found an established order of things, missions that monopolized the spiritual interests of the natives, currents of Indian trade that centered at Montreal. His ambitions led him to override these settled institutions, and he aroused the antagonism of priests and merchants. The French colonists, however, had already begun to fear the English encroachments



upon the lake fur trade, and lent a willing ear to measures that would check it. "With a fort at the mouth of Lake Ontario and a vessel on Lake Erie," wrote Governor Frontenac, in 1673, after Fort Frontenac had been built, "the French could command all the upper lakes." La-Salle's dreams were far beyond these considerations. His thought spanned the globe, and the lakes were only a means to an end. But to accomplish his purpose, he recognized the need of a trade in Indian furs and its profit. Frontenac sympathized with his plans, and no doubt expected to share in the profits. And so the little schooner, Frontenac, plowed the waters of Lake Ontario, and the famous Griffin was constructed in the country of the hostile and powerful Iroquois, most of whom were absent at the time on a distant war expedition. Consent to the construction of the vessel was gained by La Salle, from the savages who remained at home, by methods and arguments known only to himself.

When La Salle established Fort Frontenac, he removed the fur trade from Montreal to points west. He thereby antagonized both the merchants and the Jesuits at Montreal. The former complained of a loss of profits, the latter of the corruption of converts. La Salle had conceived the scheme of pushing the depot of trade into the heart of the continent, and shipping either via the St. Lawrence or the Gulf of Mexico, thus cutting off the English entirely.

*Early Life of La Salle.*—The name of La Salle in full was Rene Robert Cavelier, de la Salle. La Salle was the name of an estate near Rouen, France, belonging to the Cavaliers. French burghers, owning considerable estates, often distinguished members of their families by designations borrowed from these estates.

La Salle, though in his youth a Jesuit, could not remain a member of that society. He had a brother in Canada, the Abbé Jean Cavelier, a priest of St. Sulpice, which fact appears to have shaped his destiny, and thus to have been an antecedent to much of the early history connected with the navigation of the Great Lakes, as well as of

discovery and exploration in the great Mississippi valley.

He was born in 1643, and sailed for Canada in the spring of 1666 to seek his fortune, for having joined the Jesuits in his youth, he was, by French law, deprived of his share in his father's estate. However, when he left his native country, he had about 400 livres. He landed in Montreal, where was located the Seminary of St. Sulpice, the priests of which were granting out their lands to settlers upon easy terms. But La Salle was more fortunate than the ordinary settler, for Queylus, superior of the seminary, made him a gratuitous grant of a large tract of land at a place subsequently named La Chine, above the great rapids of that name, and about nine miles above Montreal, just at the foot of what has since been called the Lake of St. Louis.

Certain Iroquois Indians told him of a great river, which they called the Ohio, but which was the Mississippi, far to the west, which La Salle thought must flow into the Gulf of California, and would thus give him a western passage to China. His resolution was immediately formed, and having expended all his money in the improvement of his grant at La Chine, and not being able to obtain any from Governor Courcelles or of the intendant, Talon, he sold a portion of his grant to the Seminary of St. Sulpice, and the remaining portion to Jean Milot, and with the funds thus received bought four canoes, with the necessary supplies, and hired fourteen men.

*Starts for the West with Dollier.*—But the priests of the Seminary of St. Sulpice had already formed a project, having for its object the exploration of the great Northwest, for the purpose of carrying the Faith to the benighted Indians in the upper Mississippi valley. Three years before they had established the mission at Quinte, on the northern shore of Lake Ontario, which was then in charge of two of their number, one of whom was the Abbé Fenelon, elder brother of the celebrated Archbishop of Cambray. The expedition fitted out by these priests was to be directed by Dollier, one of the priests of Quinte, and upon his going to Quebec to obtain his outfit, he was

prevailed upon by Governor Courcelles to act in concert with La Salle. Galinée, one of the brother priests of Dollier, became his colleague, because he was skilled in surveying, and could therefore make a map of their route. Dollier's party procured three canoes, and the two expeditions, Dollier's and La Salle's, were combined into one. They began their voyage July 6, 1669.

The start was made from La Chine, twenty-four men embarking in seven canoes, on Lake St. Louis. In addition there was a party of Seneca Indians in two canoes, who went along as guides. They fought their way up through the rapids of the St. Lawrence river, then threaded their journey through the romantic channels of the Thousand Islands, and thence into Lake Ontario, landing at the great village of the Seneca Indians, near the banks of the Genesee. Here they remained about a month before they could find another suitable Indian guide. Then an Indian from a village called Ganastogue, at the head of Lake Ontario, offered to conduct them to his village. Coasting along the southern shores of Lake Ontario they passed the mouth of the Niagara river, where they for the first time heard the roar of the Falls, soon afterward reaching Ganastogue.

The inhabitants of this village were friendly, and presented La Salle with a Shawnee prisoner, who offered to guide them to the Ohio river, which he said could be reached in about six weeks. As related in a previous chapter, La Salle fell in with Louis Joliet, at Ganastogue. Talon had sent Joliet to discover and explore the copper mines of the Lake Superior region, and the explorer was returning without having accomplished his mission.

*Change of Plan.*—This first meeting between La Salle and Joliet caused a change in the plans of the former with reference to the course which he would pursue. On September 30, Dollier having said mass, and La Salle having received the sacrament, La Salle and the priests, who had accompanied him thus far, separated, the Sulpitians descending Grand river toward Lake Erie, and La Salle, as they supposed, returning to Montreal. But this was only

supposition on their part. To return to Montreal was no part of La Salle's design. What he actually did, however, for two years thereafter is largely matter of conjecture, for it is involved in doubt and perplexity. But it would appear that he was engaged in exploring the country south and west of the Great Lakes, that he discovered the Ohio river and descended at least as far as Louisville or the Falls of the Ohio, and that he became convinced that the Mississippi river flowed into the Gulf of Mexico instead of the Gulf of California.

*Fort Frontenac is Built.*—La Salle, it is well known, was wedded to ideas, and he was determined to discover a passage to China and Japan across the American continent. It was also his intention to anticipate the English and the Spaniards in the occupation of the great West, and to establish a fortified post at the mouth of the Mississippi. On his return to Montreal, about 1671, Count Frontenac became his powerful friend, and determined to erect a fort on Lake Ontario, to this end issuing an order to the inhabitants of Quebec, Montreal and Three Rivers, and other settlements, to furnish him with a certain number of armed men, besides the requisite canoes.

This fort, through the advice of La Salle, was located at the mouth of the Cataraqui, on the present site of Kingston, to which point Frontenac proceeded in 1673 with about 400 men and 120 canoes, besides two large flatboats, which he caused to be painted in red and blue with strange devices in order that he might dazzle the Iroquois Indians, and thus the more easily reduce them to subjection. Passing the rapids of the St. Lawrence and up through the Thousand Islands, he reached Lake Ontario. Here, in order to overawe the Indians, he arranged his canoes in order of battle, the first line being composed of four divisions. Then came the two flatboats, and after them Frontenac, his staff, his guards and general volunteers, with the canoes. Three Rivers was on his right and the Indians on his left. The rear line was brought up in two divisions, and the whole was for those times and that place a most

formidable array. Crossing over the smooth and peaceful waters of Lake Ontario, he at length approached the village at the mouth of the Cataraqui, where he was received by the Iroquois, whom he subdued and conciliated, making them his friends. Having completed the palisades of his fort, he sent his party home by detachments, who found it much easier to go down the St. Lawrence than the upward voyage had been.

*Receives a Royal Grant.*—In 1674 Frontenac sent La Salle to France, where he obtained from the King a grant of Fort Frontenac and lands adjacent, agreeing to repay Frontenac for the expense of establishing the fort, and further agreeing to maintain a garrison there at his own expense. Returning to Canada, he strengthened Fort Frontenac in 1676, erected a strong stone wall on the land side, and made more secure the palisades facing the water. He brought cattle from Montreal, constructed barks to navigate the lakes (according to Margry i 334), keep the Iroquois in check and deter the English from trading on the lakes. In 1677 La Salle again visited France and obtained a permit dated May 12, 1678, allowing him to explore the western part of New France as far as Mexico, with the privilege of trading with the natives, but expressly excluding trade with the Ottawas and such tribes as already brought their beavers to Montreal. Governor Frontenac was to share in the proposed profits of the trade.

As soon as he received his grant from Louis XIV, May 12, 1678, authorizing him to build as many forts as he might need, provided they be built within five years, and to explore the country, to secure it by means of these forts, and find a passage, if possible, to Mexico, he procured iron, cordage and anchors for two vessels, one of them to be built on the Great Lakes above the falls in the Niagara river.

*Builds the Frontenac.*—While in France securing the above grant and the means to carry out his enterprise, he became acquainted with Henry de Tonty, an Italian officer, a protégé of Prince de Conti, who sent him to La Salle. They reached Que-

bec September 15, 1678, and upon their arrival at Fort Frontenac La Salle strengthened the palisades and built the little bark Frontenac, in which Tonty set sail for the Niagara river, November 18, 1678, with Father Hennepin and others. Tonty had instructions to build a fort "near the great cataract, by which the lakes of higher elevation precipitate themselves into Lake Frontenac (Ontario), for it is from there 500 leagues by water to the place where Fort Dauphin is to be begun." Fort Dauphin was afterward to be built on the Illinois river, but under another name. From this point it only remained to descend the great river of the Bay de St. Esprit to reach the Gulf of Mexico. This was La Salle's idea, he having been misinformed as to the Mississippi river discharging itself into Mobile bay, or Bay de St. Esprit.

*The Great Voyage Begun.*—Fort Conti was to have been built on the site afterward occupied by Fort Niagara. La Salle called Lake Erie, Lake de Conti. He sent forward fifteen men to Lake Michigan, and the Illinois to trade with the Indians and to collect provisions. On the trip the Frontenac kept close along the northern shore of Lake Ontario to escape the fury of the winds, which blew savagely from the north-east. Reaching the vicinity of the Indian town, Taiaiaagon, not far from the present site of Toronto, the vessel ran for safety into a harbor, which Parkman thinks was probably the Humber, where they were shut in by ice, and they were forced to cut their way out with axes. On December 5 they attempted to cross to the mouth of the Niagara river, but darkness overtook them and they spent the night just outside on troubled waters five or six miles from shore.

In the morning they entered the mouth of the Niagara river and landed on the eastern side of the river, where now stands Fort Niagara. From this point Hennepin, with several companions, ascended the river to the foot of the mountain ridge of Lewiston, "which, stretching on the right hand and on the left, forms the acclivity of the first plateau, rent with the mighty chasm, along which from this point to the cataract, seven miles above, rush, with the fury of an Alpine



torrent, the gathered waters of four inland oceans."

Hennepin landed on the west bank near the foot of Queenston Heights, and passed on up to the Falls, the height of which he gives at 500 feet, and later at 600 feet. Hennepin spelled the name, Niagara, as it now stands in literature; but by various writers, both before and after him, it was spelled in many different ways. In 1641 Lalemont wrote it, Onguiaahra, and Sanson wrote it, Ongiara. Dr. O'Callaghan discovered thirty-nine distinct forms of the word. It is of Iroquois origin, and in the Mohawk dialect pronounced Ny-ag-ar-ah.

In order to conciliate the Senecas, and reconcile them to the prosecution of their enterprise, La Motte and Hennepin paid a visit to their chief village, near the present village of Victor, a short distance southeast of Rochester, which they reached December 31, 1678, after a march of five days. Their mission was not a success, and they set out upon their return.

*Building the Griffin.*—La Salle arrived at the head of Lake Ontario in January, 1679, and made the portage around Niagara Falls to Lake Erie, or rather to the upper Niagara river, stopping about six miles above the Falls on the American side. On this side of the river he built the schooner Griffin of, some say, 45 tons, others, 60 tons burden. The precise location where this historic craft was built, has been a matter of much conjecture among the best American historians; but the best authorities now seem to have settled down on a point on Cayuga creek near its mouth, as the precise spot, which is in Niagara county, N. Y., where the little village of La-Salle is now located.

The work of building this vessel was carried on through the winter of 1678-79 with vigor by the companions of La Salle, he being absent most of the time at Fort Frontenac, attending to his private affairs, which were in some confusion, and by which he was greatly embarrassed. Tonty and Hennepin had charge of the construction work. Although permission had been granted by the chief men of the Seneca tribe of Indians, yet there were many indi-

viduals of that tribe who did not approve of the building of the ship.

*She is Launched.*—These hostile Senecas formed a plan of burning the growing vessel, as she lay upon her stocks, but happily their designs were frustrated by the receipt of timely information, furnished by a squaw. Still the strictest vigilance was constantly observed. Then, too, the workmen themselves became dissatisfied, and it was with great difficulty that they were held to their duties. However, through the persistent efforts and persuasion of Hennepin and Tonty, the work went on, and the vessel was nearly ready to be launched in May. The looming up of its formidable hull in the stocks continued to excite the jealousy of the Senecas, and they again threatened to burn the new vessel, and this led to an earlier launching than was at first intended. This was carried out with due ceremony, she easily sliding off into the Cayuga channel of the Niagara river. About this time a party of Iroquois Indians, returning from the chase, were greatly astonished at the spectacle they witnessed, and they could not repress their admiration for the Frenchmen, who had built such a large floating fort in so short a time. To these Frenchmen they gave the name of Ot-kon, meaning penetrating minds, the corresponding word in the Seneca language being Ot-goh, meaning supernatural beings or spirits; and the Seneca, notwithstanding their continued opposition to the enterprise as it progressed, attended the launching of the vessel, and partook freely of the brandy, which was distributed with a liberal hand on the occasion.

The name selected by LaSalle for this pioneer of the Great Lakes was Le Griffon (The Griffin), in honor, some say, of Count Frontenac, whose coat of arms was ornamented with a figure of that mythical animal. Hennepin says she was named Le Griffon to protect her from the fire, with which she was threaten. The chimerical creature known as the griffin was most frequently represented as a cross between a lion and an eagle, having the body and legs of the former, and the beak and wings of the latter. In this form it appears on an-



*Cassier's Magazine.*

BUILDING OF THE GRIFFIN. (Hennepin, 1704.)





cient coins, and as an ornament in classical architecture. And it was a figure, representing this imaginary creature, that Le Griffon carried on her prow, but which, even if it did save her from the fire of the Senecas, did not, about six weeks later, save her from the fury of the winds. Another account says: "The vessel was sixty tons burthen, completely rigged, and found with all necessaries, arms, provisions and merchandise; besides seven pieces of cannon, two of which were of brass. There was a griffin flying at the jib-boom and an eagle above, and the other ornaments that were used to grace a ship of war."

The Griffon remained in the river for some time, and then, when her rigging was complete, sailed up on the easterly side of Grand island by means of the force of the wind alone. She dropped her anchor below Squaw island, in ten feet of water, and there remained for some time. At length, on August 7, 1679, a favorable northeast wind having sprung up, an attempt was made to sail up over the rapids, which was successfully accomplished by the aid of a dozen stalwart men tugging away at a tow line on the shore. In this way Le Griffon passed up into Lake Erie. She had on board of her a battery of seven small cannon and a quantity of musketry, a flag at her mast head, bearing the device of an eagle, and as stated before a carved griffin on her prow. As she passed up into the lake a dozen Seneca Indians watched her from the banks of the Niagara, and looked upon her as a ship with wings.

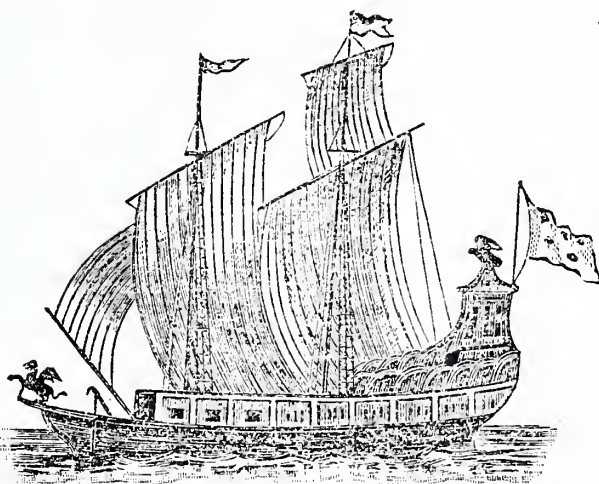
#### THE GRIFFIN SETS SAIL.

After the men who had towed the Griffon

up through the rapids had embarked, her sails were again spread to the wind, a salute was fired from the cannon and musketry, and all on board joined in singing the "Te Deum Laudamus," and her prow was turned toward the great Northwest. The wished-for wind from the northeast arose, and the party, to the number of thirty-two souls, embarked, and, contrary to the predictions of the pilot, succeeded in ascending the rapids into the lake. It was a day of re-

joicing and gratitude, religiously acknowledged by the happy voyagers, as the vessel floated on the bosom of the beautiful Lake Erie.

The Griffon now spread her sails to the auspicious breeze, and commenced her adventurous voyage. The vast inland seas, over which she was about to navigate, had never been explored, save by the



THE GRIFFIN.

*From an old cut.*

canoe of the Indian, timidly coasting along their shores. Without chart to warn of hidden dangers, she boldly ploughed her way, the pioneer of the vast fleets of modern lake commerce. A moonless night and a thick fog settled on the lakes, so they cautiously felt their way, sounding as they went. They had been told that Lake Erie was full of shoals, fatal to navigation. Suddenly the sound of breakers was borne to the ears of the watchful crew. All but La Salle were sure it was the noise of the waves, occasioned by a change of wind. But he had seen the rude chart of Galinée, made ten years previous, containing a rough outline of the northern shore, showing Long Point, extending southeastward across the course of the Griffon. Suspecting they were approaching this danger, he ordered the pilot to change the course to east northeast.

The little vessel proceeded on that course under a light breeze for two or three hours, hearing the same noise and sounding constantly without finding any bottom. An hour later the depth suddenly diminished to three fathoms. All hands were aroused and the course again changed. At length the fog lifted and Long Point lay directly before them.

La Salle's conjectures proved correct. His caution and vigilance had saved his barque from probable wreck. On the next day they doubled the dangerous headland, which they named St. Francis, now known as Long Point. At sunset they had sailed forty-five leagues from the outlet of the lake. After another anxious night they reached the widest part of the lake, from the shores of which, on either hand, stretched illimitable forests, unbroken by the faintest sign of civilization.

On the 9th of August, the winds being favorable and the lake smooth, Point aux Pins and Point Pelee were doubled on the starboard side, and on the 10th, early in the morning, passing between Point Pelee and the Bass islands, they reached the mouth of the Detroit river. Here they found Tonty and his men, waiting for the bark. They had encamped on a narrow beach, at the mouth of the strait, with the river in front and a marsh in the rear. A fresh northeast wind had suddenly raised the water during the night at that end of the lake, and it surprised and threatened to wash them during their slumbers. At break of day the Griffin appeared, a welcome sight. They signaled her with three columns of smoke. She came to anchor at the summons and received them on board.

On the 11th she entered the river and sailed up between Grosse Isle and Bois Blanc island. It is said that Hennepin was even more impressed with the beautiful scenery of the Detroit river than that of the Niagara. Following the official account, he describes the strait as "thirty leagues long, bordered by low and level banks, and navigable throughout its entire length; that on either hand were vast prairies, extending back to hills covered with vines, fruit trees, thickets and tall forest

trees, so distributed as to seem rather the work of art than of nature." All kinds of game abounded, including many species new to the travelers. The awnings, which covered the deck of the Griffin, were garnished with carcasses of deer, killed by the crew. Abundance of all kinds of timber, suitable for building purposes, was growing on shore; also nut and fruit-bearing trees, and wild vines loaded with grapes. "The inhabitants," said Hennepin, "who will have the good fortune to some day settle on this pleasant and fertile strait, will bless the memory of those who pioneered the way, and crossed Lake Erie by more than a hundred leagues of an unknown navigation."

Hennepin had failed to induce La Salle to found a colony on the banks of the Niagara. He now set forth the superior merits of the Detroit river for such an enterprise, pressing its commercial advantages, while his real object, as avowed in his narrative, was to advance the interests of his religion under cover of secular considerations. But he made no impression on the fixed purposes of La Salle, who resolutely pursued his way in the Griffin, intent on the accomplishment of the great enterprise he had inaugurated.

On the 10th of August the festival of Saint Claire, they entered and crossed the lake, which they named after that saint. In attempting to pass from the lake into the river above, they encountered the same obstacles which, after a lapse of two centuries, confront the mariners of to-day. In describing it, Hennepin says: "We found the mouth of the St. Clair river divided into many narrow channels full of sand bars and shoals. After carefully sounding them all we discovered a very fine one two or three fathoms deep and almost a league wide throughout its entire length." Contrary winds delayed their progress through the St. Clair river for several days. At length they were enabled to approach Lake Huron, but the violent current, increased by a northerly gale, prevented their advancing. The wind shifting to the south, they succeeded, with the aid of a dozen men towing on shore, as at the outlet of Lake Erie, in

surmounting the rapids, which were pronounced by Hennepin almost as strong as those of Niagara. They entered the lake August 23, the Franciscans chanting the "Te Teum" for the third time, and thanking the Almighty for their safe navigation thus far and for the sight of the great bay of Lake Huron, on the eastern shores of which their brethren had established one of the earliest missions in North America, sixty-four years before.

As soon as they entered the lake a fresh wind drove them rapidly along its eastern shores until evening, when it changed violently to the southwest. The Griffin then tacked to the northwest, and, running on that course all night, crossed the Bay of Saginaw, thirty miles in width, and which penetrates twice that distance into the heart of the Michigan peninsula. When morning came they were running in sight of land on a northwesterly course, parallel with the western coast. This continued until evening, when they were becalmed in two fathoms of water, among the Thunder Bay islands.

They sought under easy sail for an anchorage, during a part of the next night; but finding none satisfactory, and the wind increasing from the west, they steered north to gain an offing, sounding their way and waiting for the day. La Salle, having discovered evidence of negligence on the part of the pilot, took personal supervision of the lead during the remainder of the voyage.

*Storm on Lake Huron.*—On the 25th they were becalmed until noon, when, favored by a northerly wind, they started northwest. Suddenly the wind veered to the southwest. At midnight they changed their course to the north to avoid a cape, since known as Presque Isle, which projected into the lake. Hardly had they doubled this, when a furious gale compelled them to beat to windward under main and foresail, and then to lie-to until morning. On the 26th the violence of the gale obliged them to haul down their topmasts, to lash their yards to the deck, and drift at the mercy of storm. At noon the waves ran so high, and the lake became so rough, as to compel them to stand in for land. At this jun-

ture, as related by Hennepin, La Salle entered the cabin, in much alarm, exclaiming that he commended his enterprise to the Divine protection. "We had been accustomed," says Hennepin, "during the entire voyage, to fall on our knees, morning and evening, to say our prayers publicly, and to sing the hymns of our church. But the storm was now so violent that we could not remain on the deck. In this extremity each one performed his devotions independently, as well as he could, except our pilot, who could never be persuaded to follow our example. He complained that the Sieur de la Salle had brought him thus far to lose in a fresh water lake the glory he had acquired by many successful voyages by sea."

In this fearful crisis, La Salle was induced by the importunity of the Recollects to make a special vow, and, by taking St. Anthony de Padua, the tutelary saint of the sailor, for his patron, he promised that if God would deliver them from their present peril, the first chapel erected in Louisiana should be dedicated to the memory of that venerated saint. The vow seems to have met a response, for the wind slightly decreased. They were obliged, however, to lie-to, drifting slowly all night, unable to find either anchorage or shelter. On the 27th they were driven northwesterly until evening, when, under favor of a light southerly breeze, they rounded Point St. Ignace, and anchored in the calm waters of the bay of Michilimackinac, described as a sheltered harbor, protected on all sides except from the southeast. Here our voyagers found a settlement, composed of Hurons (Kis-kakons), Ottawas and a few Frenchmen.

The safe arrival of the Griffin in this secure haven was the occasion of great rejoicing to the weary voyagers. A salute was fired from the deck, and thrice responded to by the firearms of the Hurons on the shore. Mass was gratefully celebrated by the Franciscans in the chapel of the Ottawas. La Salle attended, robed in fine clothes, including a scarlet cloak bordered with gold lace, his arms being laid aside in the chapel in charge of a sentinel. More than a hundred bark canoes gathered around



the Griffin, attracted by the novel spectacle. La Salle found at Michilimackinac some of the fifteen men he had sent forward from Fort Frontenac to trade with the Illinois Indians, and whom he supposed were already among the latter. They had listened to reports on the way that the plans of La Salle were visionary, and that the Griffin would never reach Michilimackinac. La Salle seized four of the deserters, and learning that two more were at Sault Ste. Marie, he dispatched Tonty with six assistants to arrest them.

*Arrives at Green Bay.*—As the season was rapidly passing away he was unable to wait for Tonty's return, and gave orders for the departure of the Griffin. On September 12, five days before Tonty's return, she sailed out of the straits into Lake Michigan, then called Lake Illinois. A prosperous run brought her to an island, since called Washington island, forty leagues from Michilimackinac, inhabited by the Pottawatomies. It is situated at the entrance of La Grand Baie, now Green bay. Some of the party were found there, who had been sent forward by La Salle to the Illinois the year previous. They had collected a large quantity of furs, to the amount of twelve thousand pounds, in anticipation of the arrival of the Griffin. The navigators found secure shelter in a small bay, now known as Detroit Harbor, on the southerly side of the island, where they rode out at anchor, a violent storm of four days' duration.

*Griffin Leaves for Niagara.*—As winter was now approaching La Salle loaded the Griffin with the furs, which had thus been collected, intending to send them to the store house he had built above the Falls, from there to be transhipped to Fort Frontenac, in satisfaction of the claims of his creditors. His own purpose was to pursue his route by canoe to the head of lake navigation, and from there to the country of the Illinois. Being unable to obtain more than four canoes, which were wholly insufficient to contain all the merchandise and various articles destined for his southern enterprise, he was obliged to leave a portion of his goods in the Griffin with directions to the pilot to deposit them at Michilimacki-

nac, until the vessel should call for them on the return voyage.

The Griffin sailed for the Niagara September 18. A favorable wind bore her from the harbor, and with a single gun she bade adieu to her enterprising builder, who never saw her again. She bore a cargo, valued with the vessel at fifty or sixty thousand francs (\$10,000 or \$12,000), obtained at great sacrifice of time and treasure. She was placed under the command of the pilot, Luc, assisted by a supercargo and five good sailors, with directions to call at Michilimackinac, and from thence proceed to the Niagara. Nothing more was heard of her.

#### FATE OF THE GRIFFIN.

It was not until the following January that La Salle abandoned hope that the Griffin was safe. She had on board material, including rigging and anchors, for another vessel, which he had expected to build on the Illinois river, thence to descend the Mississippi river to the West Indies.

Parkman says of the ill-fated Griffin: "Indians, fur traders, and even Jesuits, have been charged with contriving her destruction. Some say that the Ottawas boarded and burned her, after murdering those on board; others accuse the Pottawatomies; others affirm that her own crew scuttled and sunk her; others again that she foundered in a storm. As for La Salle, the belief grew in him to a settled conviction, that she had been treacherously sunk by the pilot and the sailors to whom he had entrusted her. La Salle, in a letter to Frontenac, written in 1683, said that a young Indian belonging to him, told him that three years before he saw a white man, answering the description of the pilot, a prisoner among a tribe beyond the Mississippi. He had been captured with four others on that river while making his way with canoes, laden with goods, towards the Sioux. His companions had been killed. Other circumstances which La Salle details at great length, convinced him that the white prisoner was no other than the pilot of the Griffin. The evidence, however, is not conclusive."

Of the destruction of the Griffin, Hennepin says: "It came to anchor at the mouth of Lake Illinois, where it was seen by some savages, who told us that they advised our men to sail along the coast, and not toward the middle of the lake, because of the sands that make the lake dangerous when there are high winds. Our pilot, as I said before, was dissatisfied, and would steer as he pleased without hearing to the advice of the savages, who, generally speaking, have more sense than the Europeans think at first. But the ship was hardly a league from the coast when it was tossed up by a violent storm in such a manner that our men were never heard from since; and it is supposed that the ship struck on the sand, and was there buried. This was a great loss, for the ship and cargo cost 60,000 livres. The rigging, anchors and goods were brought by canoes from Quebec and Fort Frontenac, which is such a vast charge that the carriage of every hundred-weight cost eleven livres."

Among the Jesuits is a tradition that the Griffin was driven ashore during a gale, and the crew murdered and the vessel plundered. The *Buffalo Commercial Advertiser* of January 26, 1848, published a letter from James W. Peters, of East Evans, Erie county, referring to some interesting relics found near Buffalo, to substantiate this tradition: "Some thirty-five or forty years ago, on the Ingersoll farm, in Hamburg, below the Eighteen-mile creek, and on a high bank in the woods, was found by Mr. Ingersoll a large quantity of wrought iron, supposed to be 700 or 800 weight. It was evidently taken off a vessel, was of superior quality, much eaten by rust, and sunken deep in the soil. A large tree had fallen across it, which was rotted and mixed with the earth. There were trees growing over the iron from six to twelve inches in diameter, which had to be grubbed up before all the iron could be reached. About twenty-seven years since, a man by the name of Walker, after a heavy blow on the lake, found on the beach, near where the irons were found, a cannon, and immediately under it a second one. I was there not forty-eight hours after they were found;

they were much defaced by age and rust, and filled up with sand. I cleared off enough from one to lay a number of letters bare. The words were French and so declared at the time. The horns or trunnions were knocked off." It is highly improbable, however, that these were the remains of the Griffin.

Charlevoix gives this account of the loss of the Griffin: "No very authentic tidings were had of it after it left the bay. Some have reported that the Indians no sooner perceived this large vessel sailing over their lakes, than they gave themselves up for lost, unless they could succeed in disgusting the French with this mode of navigating; that the Iroquois in particular, already preparing for a rupture with us, seized this opportunity to spread distrust of us among the Algonquin nations; that they succeeded, especially with the Ottawas, and that a troop of these last, seeing the Griffin at anchor in a bay, ran up under pretext of seeing a thing so novel to them; that, as no one distrusted them, they were allowed to go aboard, where there were only five men, who were massacred by these savages; that the murderers carried off all the cargo of the vessel, and then set it on fire. But how could all these details be known when we are moreover assured that no Ottawa ever mentioned it." This is the account given by De la Potherie and adopted by Colden in his "History of the Five Nations." Hennepin says that it put in at the north of Lake Michigan, and that soon after it left some Indians saw it suddenly disappear. Tonty merely says it was never heard of afterward.

*La Salle's Subsequent Travels.*—After the loss of his vessel, La Salle went west and built Fort Creve Coeur, which was destroyed by some of his men in the absence of Tonty, who had been left in charge. In the meantime Father Hennepin, Michael Accaut and Du Gay, in obedience to orders from La Salle, had penetrated to the upper waters of the Mississippi, and had been taken prisoners by the Sioux. Under the Falls of St. Anthony, Hennepin met with

Duluth, who was familiar with the Sioux, and who was then forming the design of exploring the entire region west of Lake Superior. Father Hennepin, who had been adopted by an aged Sioux chief, was free to follow Duluth back to the French post at the Straits of Mackinac, which he did, and this is the adventure, which is famous for Hennepin's attempt a few years later to make it appear that he had followed the Mississippi to its mouth, in the Gulf of Mexico.

*His Untimely Fate.* — La Salle, upon again venturing into the West, found that the fierce and savage Iroquois had been recently on the warpath, killing their enemies and destroying their villages, and owing to these difficulties that it was not until the next spring that he found his faithful Tonty at Mackinaw. In the spring of 1682 La-Salle in company with Tonty and Membre, the latter a priest of the Recollect order, which La Salle always preferred to the Jesuit order, made that famous voyage down the Mississippi river to the Gulf of Mexico, the same year that Count Frontenac was recalled from the governorship of Canada to France. In the wilds of Louisiana, not many years afterward, La Salle was killed, and his body left a prey to wild beasts.

For over a half century French explorers had navigated the Great Lakes in frail canoes and bateaux, but none had attempted the construction of a craft till La-

Salle, with his dream of exploration and conquest, had fashioned the Griffin to aid him in the acquisition of western territory. In a brief year the Griffin had been built and lost, and for three-quarters of another century there were no vessels on the lakes above Niagara Falls.

#### FIRST VESSEL ON LAKE SUPERIOR.

The earliest builder of a vessel on Lake Superior, with sails larger than an Indian blanket, whose name has been discovered in the New Dominion archives at Ottawa, was La Ronde, a Frenchman, who, about 1731, had already constructed at his own expense a bark of forty tons, though he was obliged to transport the rigging and other materials as far as the Sault in canoes. His reward was the monopoly of the fur trade at La Pointe—the only post on the south shore of the lake for a century afterward. He thus became an autocrat there. Madeleine island, on Bellin's map, issued at Paris in 1745, is printed "Isle de la Ronde." About 1766, Capt. Jonathan Carver spent a year in crossing Lake Superior. He states that "the French, while they were in possession of Canada, had kept a small schooner on this lake." In the *Calendar of Canadian Archives* there is a notice of the loss of this vessel, soon after the conquest of Canada, in 1763.





## CHAPTER VIII.

### STRUGGLE FOR POSSESSION.

FRANCE FEARS ENGLISH ENCROACHMENT UPON THE LAKES—FORMALLY TAKES POSSESSION—THE PANEGYRIC OF FATHER ALLOUEZ—FORTS ARE ERECTED—POST ESTABLISHED AT DETROIT—DESCRIPTION OF FRENCH FORTS—THE IMPLACABLE IROQUOIS—FORT FRONTENAC IS BUILT—ATTEMPT TO CRUSH THE IROQUOIS—ENGLISH TRADERS VISIT MICHILIMACKINAC—FRENCH CAPTURE TWO PARTIES OF ENGLISHMEN—MUTUAL JEALOUSIES—SENECAS DEFEAT THE FRENCH—FORT NIAGARA BUILT AND ABANDONED—IROQUOIS CONTINUE THEIR INCURSIONS—FAVORITE BEAVER GROUNDS—WAR IS CONTINUED—FORT FRONTENAC DESTROYED—REBUILT IN 1694—ENGLISH CLAIM LAKE ONTARIO AND LAKE ERIE—ENGLISH TRADE WITH CANADA PROHIBITED—FRENCH REBUILD FORT NIAGARA—ENGLISH ERECT A FORT AT OSWEGO—FRENCH STRENGTHEN THE POSTS—FINAL STRUGGLE—ENGLISH BUILD WAR VESSELS—FRENCH STRENGTHEN DEFENSES—MONTCALM CAPTURES OSWEGO—FALL OF FORT FRONTENAC—FORT NIAGARA SURRENDERS—A FRENCH VESSEL FOUNDERS—CONCLUSION.

**A** CENTURY of warfare marks the history of the Great Lakes, prior to their conquest by Great Britain. Unlike the French colony in Canada, the English settlements on the Atlantic did not seek to penetrate the wilderness far beyond their habitations. There was no large water course like the St. Lawrence, extending from New England into the interior of a continent and inviting exploration, but mountainous regions barred the way. One exception must be noted. From the settlement of the Hollanders at New Amsterdam a natural route led up the Hudson and Mohawk valleys to the region of the lower lakes. The Dutch traders were not slow in developing a fur traffic with the Indians, and when New York, in 1664, became a dependency of Great Britain, there was for the first time an opportunity for the English-speaking people to approach the lake region. The route led through the heart of the Iroquois nation, and the enmity of that proud people toward the French traders greatly aided the English in attaining a share of the profitable fur trade. From that date until the fall of Canada, in 1763, there were intrigues with Indian tribes, frequent outbursts of war, innumerable plot-

tings and counter plottings, all growing out of the competition for lake commerce as it then existed, the wars in Europe between England and France fanning the hostilities on this side of the ocean. A few years after New York had become an English colony, France formally made her claim to the Great Lakes.

#### FRANCE FORMALLY TAKES POSSESSION.

The formation of the Hudson Bay Company in England, and the fear that the English would thereby gain a foothold in the trade of the Great Lakes, was another cause of anxiety to the Canadian Government. Tolon learned in 1670 that two English vessels were engaged in the fur trade on Hudson Bay. It was accordingly resolved to take formal possession of the lake regions and make a closer alliance with the tribes surrounding the lakes.

So, during the summer of 1671, the Sault Ste. Marie was the scene of a memorable episode in the history of New France. Simon Francois Daumont, Sieur St. Luson, was commissioned by the Government of Quebec to go to Lake Superior to search for copper mines, and to take formal possession of the basin of the lakes and its

tributary rivers. He took with him Nicholas Perrot and Louis Joliet, both of whom became more famous than did Daumont himself. On an elevation overlooking the rapids of St. Mary, around which have since been constructed two ship canals, St. Lusson erected a cross and post of cedar with the arms of France. There were present the priests in their black robes, Indians and bushrangers. In the name of the "most high, mighty and redoubted monarch, Louis XIV, most Christian King of France and of Navarre," he declared France to be the owner of the Sault Ste. Marie, Lakes Huron and Superior, and "all the adjacent countries, rivers, lakes and contiguous streams."

Tolon announced the result of the expedition as follows: "Sieur de Saint Lusson is returned, after having advanced as far as 500 leagues from here, and planted the cross and set up the King's arms in presence of seventeen Indian nations, assembled on this occasion from all parts, all of whom voluntarily submitted themselves to the dominion of his majesty, whom alone they regard as their sovereign protector. This was effected, according to the account of the Jesuit Fathers, who assisted at the ceremony, with all the display and formality the country could afford.

"The place to which the said Sieur de Saint Lusson has penetrated is supposed to be more than 300 leagues from the extremities of the countries, bordering on the Vermillion or South sea. Those bordering on the West sea appear to be no farther from those discovered by the French. According to the calculations made from the reports of the Indians and from maps, there seems to remain not more than 1,500 leagues of navigation to Tartary, China and Japan. Such discoveries must be the work of either time or of the King. It can be said that the Spaniards have hardly penetrated farther into the interior of South, than the French have done up to the present time into the interior of North America."

*The Panegyric of Allouez.* — At this memorable assemblage Father Allouez pronounced the following panegyric on the King, which is worthy of being preserved:

"It is a most important affair, which calls us together. Cast your eyes on that cross, which is so high above your heads. 'Tis there where the Son of God was willing to be attached and to die, in order to satisfy His eternal Father for your sins. He is the master of your lives and also of heaven, and earth, and hell. It is He of whom I have so often spoken, and whose name and word I have borne into these distant lands. But, at the same time, look upon that other column, to which are attached the arms of that great chief of France, whom we call King. He lives beyond the sea. He is the chief of chiefs, and has not his like in the world. All the chiefs whom you have seen and of whom you have heard, are but children compared with him. He is like a great tree, while they are mere shrubs which we tread upon. You know Onnontio (governor-general), the renowned chief of Quebec. You know that he is the terror of the Iroquois, and that his name is sufficient to make them tremble, since he has desolated their lands, and carried fire among their settlements. There are beyond the sea ten thousand Onnontios like him, who are but warriors of that great chief, our King, of whom I speak. When he says 'I go to war,' everybody obeys, and these ten thousand chiefs raise bands of warriors both for the land and for the sea. Some embark in ships, like those you have seen at Quebec. Your canoes will hold but four or five men—twelve to the utmost. Our vessels carry four and five hundred, and even a thousand. Another portion go to war on land, but in such numbers that, when arrayed in double ranks, they would reach to Mississaugenk, which is twenty leagues from here. When he attacks he is more fearful than thunder. The earth trembles, and the air and the sea are on fire from the discharge of his cannon. He has been seen in the midst of his squadrons covered with the blood of his enemies; so many of whom has he put to the sword, that he does not number their scalps, but merely the rivers of blood which he has caused to blow. He carries such a number of captives with him that he does not value them, but lets them go where they please to show that he does

not fear them. Nobody dare make war on him. All nations beyond the sea have sued for peace with great submission. They come from every quarter of the globe to listen to him and admire him. It is he who decides upon the affairs of the world. What shall I say of his riches! You think yourselves very rich when you have ten or twelve sacks of corn, and hatchets and kettles and other things of the kind. He has more cities than you have men, which are scattered over a space of more than five hundred leagues. In each city there are shops containing hatchets enough to cut all your wood, kettles enough to cook all your caribou, and sugar enough to fill all your wigwams. His house extends further than from here to the Sault, is higher than the tallest of your trees, and contains more people than the largest of your settlements ever contained."

*Forts are Erected.*—A rude fort was erected by the French at Mackinaw about 1671. Daniel Greysolon Deluth or de Lhut, was dispatched in 1678 to the lands of the Sioux and Assiniboines. He planted the King's army among the Isanti Sioux Indians, who dwelt at Mille Lacs (Minnesota), "lest the English and other Europeans, settled toward California, take possession of the country."

In June, 1686, Duluth, then in command of the fort at Mackinaw, received orders from Governor Denonville of New France to establish a fort on the Detroit of Lake Erie. Accordingly, Fort St. Joseph, called Fort Duluth, was built on the St. Clair river, near the present Fort Gratiot, the same year. It was intended as a barrier to English traders, and was garrisoned by 58 men. Two years later Denonville, in order to allay the growing irritation of the Iroquois, ordered Fort St. Joseph abandoned. Accordingly, on August 27, 1688, the buildings were burned and the place deserted.

*Post Established at Detroit.*—The passage between Lakes Erie and Huron was then unguarded until 1701. Cadillac in that year erected a fort on the site of Detroit. Livingston at this time was urging the governor of New York to establish a fort there. In 1703 the French fort was partially de-

stroyed by the Indians. In 1718 it was rebuilt by Tonty, and made one of the strongest in New France. In 1748 it was repaired with oak pickets fifteen feet long and a diameter of six inches at the small end. In 1749 a number of immigrants arrived from France, and the stockade was soon after enlarged.

A post was also erected at Green bay to control the Fox-Wisconsin portage.

The only known record of the fort, which during the French period occupied the site of Chicago, is a report made in 1718 by James Logan, an agent sent by Governor Keith, of Pennsylvania, to explore routes to the Mississippi. The report says: "From Lake Huron they pass by the Straits of Michilimackinac four leagues, being two in breadth and of great depth, to the Lake Illinois; thence 150 leagues to Fort Miamis, situated at the mouth of the river Chicago. This fort is not regularly garrisoned."

These forts were palisaded trading posts the garrison of which was supported not by the Crown but by the profits of the fur trade. It was not French soil that was protected, but the management and control of the Indian trade.

"It is surprising," says Schoolcraft, "to reflect upon the early enterprise and sound judgment of the French in seizing upon the points commanding all the natural avenues and passes of the lakes, particularly when it is considered that these selections must necessarily have been the result of an intimate acquaintance with the geographical features of the country. A number of posts and places which had been occupied by the French, but long since neglected, were subsequently re-fortified by the United States Government, while the Indians still held the Northwest.

*Description of French Forts.*—The French forts at Sault Ste. Marie and Mackinaw were described, in 1763, by Henry, the English trader. He said: "Being desirous of visiting the Sault de Sainte-Marie, I left Michilimackinac on May 15, in a canoe. The Sault de Sainte-Marie is distant from Michilimackinac thirty leagues, and lies in the strait which separates Lake Huron from Lake Superior. Having passed Le Detour,



a point of land at the entrance of the strait, our course lay among numerous islands, some of which are twenty miles in length. We ascended the rapid of Miscoutinsaki, a spot well adapted for mill-seats, and above which is the mouth of a river of the same name. The lands on the south shore of this river are excellent. The lake is bordered by meadows, and, at a short distance back, are groves of sugar-maple. From this river to the Sault de Sainte-Marie is one continued meadow.

"On the 19th I reached the Sault. Here was a stockaded fort, in which, under the French Government, there was kept a small garrison, commanded by an officer who was called the governor, but was in fact a clerk who managed the Indian trade here on government account. The houses were four in number, of which the first was the governor's, the second the interpreter's, and the other two, which were the smallest, had been used for barracks. The only family was that of M. Cadotte, the interpreter, whose wife was a Chippewa. The fort is situated on a beautiful plain of about two miles in circumference, and covered with luxuriant grass; and within sight are the rapids in the strait, distant half a mile. The width of the strait, or river, is about half a mile. The portage, or carrying-place, commences at the fort. The banks are rocky and allow only a narrow foot-path over them. Canoes, half loaded, ascend on the south side, and the other half of the load is carried on men's shoulders. These rapids are beset with rocks of the most dangerous description; and yet they are the scene of a fishery, in which all their dangers are braved and mastered with singular expertness. They are full of white fish, much larger and more excellent than those of Michilimackinac, and which are found here during the greater part of the season, weighing in general from six pounds to fifteen.

"Fort Michilimackinac was built by order of the governor-general of Canada, and garrisoned with a small number of militia, who, having families, became less soldiers than settlers. Most of those whom I found in the fort had originally served in the French army. The fort stands on the

south side of the strait which is between Lake Huron and Lake Michigan. It has an area of two acres, and is enclosed with pickets of cedar-wood, and it is so near the water's edge that, when the wind is in the west, the waves break against the stockade. On the bastions are two small pieces of brass English cannon, taken some years since by a party of Canadians who went on a plundering expedition against the posts of Hudson Bay, which they reached by the route of the river Churchill.

"Within the stockade are thirty houses, neat in their appearance and tolerably commodious, and a church, in which mass is celebrated by a Jesuit missionary. The number of families may be nearly equal to that of the houses, and their subsistence is derived from the Indian traders, who assemble here in their voyages to and from Montreal. Michilimackinac is the place of deposit and point of departure between the upper countries and the lower. Here the outfits are prepared for the countries of Lake Michigan and the Mississippi, Lake Superior and the Northwest, and here the returns, in furs, are collected and embarked for Montreal."

*The Implacable Iroquois.*—The Iroquois nation bore the brunt of the warfare which speedily followed. Their relations with the English were usually friendly, and with the French actively hostile. The Iroquois irrupt on in 1650 had swept commerce from the lakes. A writer in 1653 said: "The war with the Iroquois has dried up all sources of prosperity. The beaver are allowed to build their dams in peace. Crowds of Hurons no longer descend from their country with furs for trading. The Algonquin country is depopulated and the nations beyond it are retiring farther away, fearing the musketry of the Iroquois. The keeper of the company's stores here in Montreal has not bought a single beaver skin for a year." Peace was effected in 1654, and traders again appeared on the upper lakes. But the Iroquois continued to waylay their ancient enemies, the Ottawas. It was partially to place a barrier between these tribes that Governor Courcelles, in 1671, resolved to establish a post on Lake Ontario.

*Fort Frontenac is Built:*—Before it was accomplished Frontenac succeeded Courcelles as governor of New France. He approved the plan and visited the proposed site in 1673. The Iroquois interposed no serious objection. The construction of this fort, known as Fort Frontenac, on the site of Kingston, has been noticed in the chapter on "La Salle and the Griffin."

Frontenac in 1678 sent Raudin, the engineer who had laid out Fort Frontenac, to the extremity of Lake Superior with presents to the Ojibways and the Sioux. He wished to retain their friendship, and prevent its alienation by the Iroquois or English traders.

*Attempt to Crush the Iroquois.*—In 1684 De la Barre, then governor of Canada, sent a messenger to Albany, N. Y., complaining that the Seneca Indian, a branch of the Iroquois, had interrupted the trade of the French with the more distant Indians, commonly known at that time as the far nations, who included the numerous tribes inhabiting the countries on both sides of Lakes Huron and Erie, and westward to the Mississippi. Colonel Dongan, governor of New York, communicated the message to the Senecas who admitted the charge and justified their conduct, alleging that the French supplied arms and ammunition to the Miamis, with whom they were then at war. De la Barre, determining to crush the Iroquois, proceeded to Lake Ontario with an army of 1,700 men, and directed the far nations, his allies, to rendezvous at Niagara. Dongan promised the Iroquois his assistance. But an epidemic broke out among the French troops and De la Barre crossed the lake from Fort Frontenac to a place called, on account of the distress of his army, la Famine, and concluded a peace with three tribes of the Iroquois, the Oneidas, Onondagas and Cayugas, the remaining two tribes, Mohawks and Senecas, at the instigation of Colonel Dongan declining to attend the conference.

In his speech to the braves, De la Barre said: "The far nations have robbed and abused all the traders that were passing to the Illinois and Miamis and other Indians, the children of my King. They have acted

contrary to the former treaty of peace. They have conducted the English into the lakes, which belong to the King, my master, and brought the English among the nations that are his children to destroy the trade of his subjects. I am willing to forget these things, but if ever the like shall happen for the future I have express orders to declare war against you."

Garrangula, an Onondaga chief, remarks an English historian (William Smith), heard these threats with contempt. He had learned the distressed state of the French army, and made answer: "We plundered none of the French but those that carried guns, powder and ball to the Miamis and Chictaghies (Illinois) because those arms might have cost us our lives. Herein we follow the example of the Jesuits, who stove all the kegs of rum brought to our castles lest the drunken Indians should knock them on the head. Our warriors have not beaver enough to pay for all these arms, that they have taken, and our old men are not afraid of the war. We carried the English into our lakes to trade with the Utawawes (Ottawas) and Quatoghies (Hurons) as the Adirondacks brought the French to our castles to carry on a trade which the English say is theirs. We are born free. We may go where we please, and carry with us whom we please, and buy and sell what we please."

The Marquis Denonville succeeded De la Barre in 1685, and, to wipe out the disgrace of the previous campaign, recommended the construction of a stone fort at Niagara, sufficient to contain 400 or 500 men, not only to exclude the English from the lakes but to subdue the Five Nations. Colonel Dongan protested, and said an attack on the confederates (Iroquois) he would consider a breach of the peace. To prevent the building of a fort at Niagara he claimed that country as dependent upon the Province of New York.

Governor Dongan, of New York, although a Catholic, aggressively asserted the right of English traders to visit the Indians of the upper lakes. In 1685 he licensed La Fontaine Marion, a Canadian, and others to trade in the Ottawa country. Their successful trip created consternation at Quebec,

and Governor Denonville wrote: "Michilimackinac is theirs. They have taken its latitude, have been to trade there with our Ottawas and Hurons, who received them cordially on account of the bargains they gave by selling them merchandise for beaver at a much higher price than we. Unfortunately we had very few Frenchmen there at that time."

By a treaty between France and England, made at Whitehall in 1686, it was agreed that the Indian trade in America should be free to the English and French. As interpreted by the English, this gave them the right of passage and trade on the Great Lakes.

*English Traders Visit Michilimackinac.*—In 1686 a party of English traders reached Michilimackinac, who announced in advance that they would sell goods much cheaper than the French. They were well received, and conducted their trade with perfect liberty, for the commandant, De la Durantaye, was absent. He arrived just after the traders had departed, and wished to pursue them instantly, but the Hurons prevented him. "Nothing," says Charlevoix, "was fraught with greater danger than this opening of trade between New York and the nations, whom we had till then regarded as our most faithful allies."

*French Capture Two Parties of Englishmen.*—In the spring of 1687 a party of English traders, under Capt. Thomas Rose-boome, of Albany, consisting of twenty-nine whites and five Indians, were arrested by Durantaye, commandant at Mackinaw, twenty leagues from that post. A month later Durantaye, Duluth and a detachment of 170 French troops, together with about 400 Indian allies, while on their way to Niagara to assist in a movement against the Iroquois, met in St. Clair river a second party of twenty-nine English traders, accompanied by a few Indians in charge of Major Patrick McGregory, of Albany. They also were arrested. In a letter Governor Denonville expressed his pleasure at the capture of the two English parties, and adds: "It is certain that had the two English detachments not been stopped and pillaged, had their brandy and other goods

entered Michilimackinac, all our Frenchmen would have had their throats cut by a revolt of all the Hurons and Ottawas, whose example would have been followed by all the other far nations, in consequence of the presents which had been secretly sent to the Indians."

The English version of this affair, and of the complications with the Indians that preceded it, is presented by Cadwallader Colden, surveyor-general of New York, in his "Memorial of the Fur Trade." He says: "The art and industry of the French, especially that of their religious missions, has so far prevailed upon all the Indians of North America that they are everywhere directed by French councils. Even our own Five Nations (the Iroquois) who formerly were mortal enemies of the French, and have always lived in the strictest amity with the English, have of late been so far gained that several of the Mohawks, who live nearest the English, have left their habitations and are gone to settle near Montreal, in Canada; and all the rest discover a dread of the French power."

After describing the value of the Indian trade on all the lakes, Colden continues: "It must naturally be objected that if these things are true, how is it possible that the traders of New York should neglect so considerable and beneficial trade for so long time? In answering I shall give a short history of the country so far as it relates to this trade. When the Province of New York first came under the crown of Great Britain, our Five Nations of Indians were mortal enemies of the French at Canada, and were in a continued war with them and all the nations of Indians round the lakes, so that then it was not safe for the English to travel further than the countries of the Five Nations, nor would our Indians permit the far Indians (with whom they had constant war) to pass through their countries to Albany. Besides, the Five Nations were at that time so numerous (consisting of ten times the number of fighting men they now do), that the trade with them alone was very considerable for so young and small a colony. In the latter end of King Charles' reign the Governor of New York had orders



to use all endeavors to make up a peace between our nations (the Iroquois) and the French; and that he should persuade the Five Nations to admit French priests among them in order to civilize them, the consequence of which was that the French thereby obtained a free commerce upon the lakes and obtained leave to build Cataraqui Fort (Frontenac) upon the north side of Lake Cataraqui (Ontario), and have two vessels of force upon the same lake. From this time, during all King James' reign, the French, whenever they had any differences with the Five Nations, threatened that the English of New York would join with them and destroy the Five Nations; by which our Five Nations became very much alienated in their affections from the English, and looked upon them as a people depending upon the French. The consequence of this appeared so dangerous to Colonel Dongan (the Governor of New York) that he again and again complained to his master. When the English had thus procured peace for the French, they thought they might justly reap some advantage from it, and it is hardly to be doubted that they had promises of that kind. They were, therefore, encouraged to send forty men, with great quantities of goods, into the lakes under the command of Major McGregory to trade with the far Indians. At this time Mr. Denonville, Governor of Canada, was gathering together all the forces of Canada and of the Indians (enemies of the Five Nations), in order to surprise the Five Nations and destroy them at the time they thought themselves secure by the peace so lately made. Major McGregory and his company were met by a French officer on Lake Erie coming with a great number of men to the general rendezvous of the French, and he, with all the English, were made prisoners. They were used with such severity as has never been practiced between Christian nations in open war, though the two Crowns at that time were not only at peace, but under the strictest ties of mutual friendship, for the French used these people as slaves in building Cataraqui fort, and a poor Frenchman that had conducted them was publicly shot to death as if he had brought an enemy into

their country. Such was their apprehensions then of the English getting any footing among the Indians.

Charlevoix defends the shooting of the French guide. He says: "This act the Baron de la Hontan denounces as unjust because, he says, we were then at peace with England, and the English pretended to be masters of the lakes. As though this chimerical pretension, never mentioned to my knowledge by anyone except this author, restored to innocence a deserter, who was serving another nation to the detriment of his sovereign." Charlevoix claimed that the trading expeditions of the English were in formal violation of the agreement between the two Crowns, as Colonel Dongan well knew.

Denonville had resolved to crush the Iroquois on account of their harassment of Indian tribes friendly to the French, and on account of their instrumentality in giving the English access to the lakes. Accordingly, he, in 1687, collected 2,000 troops and 600 Indians at Montreal, and directed the far nations to meet him at Niagara for an expedition against the Senecas. As narrated above, the French traders from up the lakes and the far nations were on their way to meet him, when they encountered and captured the English traders.

*Senecas Defeat the French.*—Marquis Denonville embarked his whole army in canoes, and set out from the fort at Frontenac June 23, one-half passing along the north side and the other along the south side of Lake Ontario, and both arrived the same day at Irondequoit. Setting out for the chief village of the Senecas, seven leagues distant, a battle resulted in which the French were worsted and driven to the banks of the lakes.

*Fort Niagara is Built and Abandoned.*—Here, on the site of La Salle's trading post, was erected a fort with four bastions, on the southeast side of the straits of Niagara. Here 100 men, under command of De la Troye, were left with eight months' provisions. They were besieged that winter, and all but seven or eight miserably perished through famine. The fort was consequently abandoned in 1688. Charle-

voix recounts the building of the fort at Niagara in 1687 and its early abandonment, and continues: "Meanwhile the Governor of New York steadily pursued his plan, which consisted in endeavoring to debauch our allies and draw to himself all the trade of Canada, as well as render the Iroquois our irreconcilable enemies."

The latter continued their hostile incursions up the lakes. Having no beaver in their own country, they were obliged to hunt at a great distance, which often occasioned disputes with their neighbors about the property of the beaver. The beaver was the most valuable branch of the Indian trade. Because of some interference of this kind from the Miamis, the Iroquois had in 1687 made an expedition against that tribe.

*Favorite Beaver Grounds.*—One of the best beaver grounds in the whole Northwest was the lower Michigan peninsula. Hubbard, in his "Memorials of a Half Century," says: "The region between Lake Erie and Saginaw was one of the great beaver-trapping grounds. The Hurons, the Chippewas, the Ottawas, and even the Iroquois, from beyond Ontario, by turns sought this region in large parties for the capture of this game, from the earliest historic times. It is a region peculiarly adapted to the wants of this animal. To a great extent level, it is intersected by numerous water courses, which have but moderate flow. At the headwaters and small inlets of these streams the beaver established his colonies. Here he dammed the streams, setting back the water over the flat lands, and creating ponds, in which were his habitations. Not only one or two, but a series of such dams were constructed along each stream, so that very extensive surfaces became thus covered permanently with the flood. The trees were killed, and the land was converted into a chain of ponds and marshes, with intervening dry ridges. In time, by nature's recuperative process, the annual growth and decay of grasses and aquatic plants, these filled with muck or peat with occasional deposits of bog-lime, and the ponds and swales become dry again."

*Fort Frontenac Destroyed.*—The war was continued in 1688, and Canada was invaded by the Iroquois. The grasp of the French upon the lower lakes was lost. The garrison at Fort Frontenac set fire to two barks which had been built at Fort Frontenac, and then abandoned the fort. Smith, in his history of New York, says: "They left a match to twenty-eight barrels of powder designed to blow up the works. The soldiers went down the river in such precipitation that one of the bateaux and her crew were all lost in shooting a fall. The confederates in the meantime seized the fort, the powder and the stores. But for the uncommon sagacity and address of the Sieur Perot the western Indians would have murdered every Frenchman among them."

The ascension of William of Orange to the throne of England in 1688 was followed by the war of the Palatinate (1689-97), and the hostilities between the French and English in America was increased in bitterness. Frontenac tried to capture New York, but failed. The Iroquois interposed an effectual barrier, but in the struggle the power of the Five Nations was broken.

*Rebuilt in 1694.*—The French rebuilt Fort Frontenac in 1694, and two years later the Count raised one of the barks which had been sunk when the fort was deserted. He crossed Lake Ontario to Oswego river, and destroyed a village of the Onondagas.

The peace of Ryswick was signed in 1697, but was only a truce, for the war of the Spanish Succession was reflected in America by Queen Anne's war (1702-13). At Detroit a fort was erected in 1701. During much of this time peace prevailed on the Great Lakes, while fighting occurred in New England and Quebec, because the French traders did not wish to again provoke the Iroquois and disturb the trade in goods which had sprung up from Albany to Montreal and was carried on by neutral Indians. This trade a little later was the cause of great animosity. The peace of Utrecht, concluded in 1713, gave England Hudson Bay, Newfoundland and Acadia, and France continued to hold possession of the lakes and to fortify the interior.

The Treaty of Utrecht contained this

provision: "The subjects of France inhabiting Canada, and others, shall hereafter give no hindrance or molestation to the Five Nations subject to the dominion of Great Britain, nor to the other nations of America who are friendly to the same. In like manner the subjects of Great Britain shall behave themselves peaceably toward the Americans, who are subjects or friends to France, and on both sides they shall enjoy full liberty of going and coming on account of trade. Also the natives of these countries shall, with the same liberty, resort as they please to the British and French colonies for promoting trade on one side or the other, without any molestation or hindrance."

*English Claim Lake Ontario and Lake Erie.*—In consequence of this treaty the sovereignty of Great Britain, it was claimed, extended over the territory of the Iroquois or Five Nations, and as this territory was defined by Charlevoix and other French writers to extend to Niagara and to both sides of Lake Ontario, the British lay claim to Fort Frontenac and Niagara, and consequently the control of the trade of Lake Ontario. Fort Frontenac had been abandoned by the French in 1688, after the downfall of Montreal, and the Indians had demolished a great part of the works. The English also held that the destruction of the Erie or Cat Nation, then inhabiting both shores of Lake Erie, gave to the victors, the Iroquois, and through them, the English, possession of Lake Erie also. On the other hand, the French maintained, with great ardor, their own title to these waterways.

The mouths of the Cuyahoga and the Sandusky had been trading points at least as far back as 1700. From that time on for about half a century they were points of great importance to the Indians and white men trading with the Indians. The French extended their trading posts to all points along the lakes, during the first half of the eighteenth century, one of these posts being at the mouth of the Cuyahoga, and another being at the mouth of Tinker's creek. From 1750 to 1760 the French and British traders occupied the field together.

Early in the eighteenth century trade

with the Mississippi Valley increased, and the routes of travel became well defined. Three were especially used. One of these was by way of Lake Erie and the Maumee, Wabash and Ohio rivers; another was by way of Lake Michigan and the Chicago and Illinois rivers. The third was via Lake Michigan, Green Bay, and Fox and Wisconsin rivers. All these were independent of La Salle's route via the Kankakee and Illinois rivers.

Governor Burnett of New York, in 1720, was impressed with the necessity of getting command of Lake Ontario as well for the benefit of trade and the security of the friendship of the Five Nations, as to frustrate the French designs of confining the English colonies to narrow limits along the sea coast, by a chain of forts on the great passes from Canada to Louisiana. To this end he began in 1720 the erection of a trading house at Oswego. This aroused the activity of the French. Fearing to lose a profitable trade, which they had almost entirely engrossed, and the command of Lake Ontario, they in 1726 launched two vessels in it, and transported material for building a large storehouse and repairing the fort at Niagara. "The scheme," says Smith, "was not only to secure to themselves the entrance into the west end of the lake, as they already had the east, by the fraudulent erection of Fort Frontenac, many years before, but also to carry their trade more westerly, and thus render Oswego useless by shortening the travels of the western Indians nearly 200 miles."

*English Trade With Canada Prohibited.*—Acts were passed by the Legislative Council of New York in November, 1720, and in July, 1722, forbidding New York merchants supplying Canada with goods for the fur trade. The sale of these goods, it had been urged, enabled France to control the trade of the West, and to hem in the English colonies. The New York merchants, who had profited by this Canadian trade, protested, and were supported by the exporting houses in England, who supplied them.

*French Rebuild Fort Niagara.*—The purpose of these acts was to encourage



English traders on the lower lakes. Doubtless with a view to checking this threatened English trade, the Governor of Canada in 1725 rebuilt Fort Niagara of stone. Two years later the English erected a fort at Oswego, and renewed hostilities were threatened. Smith, in his "History of New York," says: "Charlevoix does honor to Mr. Burnet, in declaring that he left no stone unturned to defeat the French designs at Niagara. Nor is it much to be wondered at. For, besides supplanting his favorite trade at Oswego, it tended to the defection of the Five Nations; and in case of a rupture, exposed the frontiers of our southern colonies to the ravages of the French and their allies. Mr. Burnet, upon whom these considerations made the deepest impression, laid the matter before the house—remonstrated against the proceedings of Longuiel in Canada—wrote to the ministry in England, who complained of them to the French court—and met the Iroquois at Albany, endeavoring to convince them of the danger they, themselves, would be in from an aspiring, ambitious neighbor."

*English Erect a Fort at Oswego.*—"The French in the meantime completed their works at Niagara; and Mr. Burnet (Governor of New York), who was unable to do anything else, erected a fort in 1727, for the protection of the post and trade at Oswego. This necessary undertaking was pregnant with the most important consequences, not only to this, but all our colonies; and though the Governor's seasonable activity deserved the highest testimonials of our gratitude, I am ashamed to confess, what I am bound to relate, that he built the fort at his private expense, and that a balance of about 56 pounds principal, though frequently demanded, remains due to his estate this very day.

"Beauharnois, the governor of Canada, who superseded Longuiel, was so incensed at the building of the fort, that he sent a written summons, in July, to the officer posted there to abandon it; and, though his predecessor had done the same, a little before, at Niagara, in the country of the Senecas, the acknowledged subjects of the

British Crown, yet with singular effrontery, he dispatched de la Chassaigne, a man of parts, and governor of Trois Rivières, to New York, with the strongest complaints to Mr. Burnet upon that head. His excellency sent him a polite, but resolute answer, on the 8th of August; in which he refuted the arguments urged by the French governor-general, and remonstrated against the proceedings of the last year at Niagara.

"The French, who eyed the important garrison at Oswego, and our increasing trade there, with the most restless jealousy, prepared, early in the spring following, to demolish the works. Governor Burnet gave the first intelligence of this design in a letter to Colonel Montgomerie, dated at Boston the 31st of March, 1729. The garrison was thereupon immediately reinforced by a detachment from the independent companies; which, together with the declared resolution of the Indians, to protect the fort, induced the French to desist from intended invasion. From that time to the year 1754 this garrison was guarded only by a lieutenant and five and twenty men. General Shirley's parting from the forces destined against Fort Duquesne, and proceeding with half the army to Oswego in 1755, was extremely fortunate to our colonies; the French being then determined and prepared to possess themselves of the post. Besides the vessels launched there, to secure the command of the lake, the general, before he returned to winter quarters, erected two strong square forts, with bastions, commanding as well the entrance into the Onondaga river, as the old fort; in the situation of which, little regard was had to any thing besides the pleasantness of the prospect.

"Thus far our Indian affairs appeared to be under a tolerable direction; but these fair prospects were soon obscured by the King's repealing, on the 11th of December, 1729, all the acts which Mr. Burnet with so much labor and opposition, procured for the prohibition of an execrable trade between Albany and Montreal. To whose intrigues this event is to be ascribed, cannot be certainly determined. But that it was pregnant with the worst consequences, time

has sufficiently evinced. Nothing could more naturally tend to undermine the trade at Oswego, to advance the French commerce at Niagara, to alienate their fidelity to Great Britain, and particularly to rivet the defection of the Caghnugas (Cayugas). For these residing on the south side of St. Lawrence, nearly opposite Montreal, were employed by the French as their carriers; and thus became interested against us by motives of the most prevailing nature. One would imagine that after all the attention bestowed on this affair in the last administration, the objections against this trading intercourse with Canada, must have been obvious to the meanest capacity, and yet so astonishing has been our conduct, that from the time Mr. Burnet removed to Boston, it has been rather encouraged than restrained. \* \* \* I cannot, in justice to my countrymen, help observing that, from the severest scrutiny I could make, our people are free from the charge of selling ammunition to the French, which has so unjustly exposed the inhabitants of Albany to the odium of all the colonies in New England."

A letter, written at New York in 1740, thus describes the trade at Oswego: "Governor Burnett has succeeded far beyond expectations in redeeming the Indian trade from the hands of the French. The trading house is at Oswego, a very great trade is carried on with the remote Indians, who formerly used to go down to the French at Montreal, and then buy our English goods at second hand. The Indian trade is now divided into several hundred hands, and there have been for many years past upward of one hundred young men of this province, who have gone yearly among the Indians to supply them with our goods. By this means I am assured that the Indian trade of this province is now far above five times as much as when Governor Burnett began to put his scheme into execution."

When the war of the Austrian Succession came on, America became involved in King George's war (1744-48), but the treaty of Aix la Chapelle restored the territory to its previous ownership.

*French Strengthen the Posts.*—In 1747

the governor of Canada, Conte de la Galissoniere, proceeded to fortify the scattered posts from Lake Superior to Lake Ontario. In 1750 Little Fort Niagara, one and one-half miles above the Falls of Niagara, was completed, and was the upper terminus of a portage to Fort Niagara, on the site of the present village of Lewiston.

#### THE FINAL STRUGGLE.

Meanwhile the English colonies had pushed into the Ohio Valley, and sought land rather than trade. They were backed by compact colonies, and were breaking the chain of French communication between the Great Lakes and Louisiana. The Thirteen colonies numbered one million people and represented agricultural and industrial civilization. Opposed to them were 80,000 French habitants and traders scattered through the continent, subjects of capricious dictation from Paris. The French habitants and voyageurs, thus held in vassalage without restraints or ambition, assimilated the more readily with the savages. The free life of the forest fur trade increased the number of the *coureurs de bois*, whose birch canoes skirted the clear waters of the Great Lakes to the tune of gay boating songs.

The closing struggle was at hand, and during the seven years' war (1756-63) the French denizens of the West stirred the passions of the Indians to implacable fury by pointing to the steady encroachments upon their land by the English. The campaigns centered about the key points of the Indian trade.

*English Build War Vessels.*—In 1755 the English had built two sloops at Oswego, named the Oswego and Ontario, and in the same year General Shirley placed on the same lake a sloop and a schooner, each of 60 tons, besides a number of smaller boats.

One of the English schooners on Lake Ontario, launched in the summer of 1755, was of forty feet keel, and carried fourteen swivel guns. While she was provided with sails, she was also made to row when necessary. In the fleet, fitted out in Oswego, by the English in 1755, was a decked sloop of eight 4-pounders and thirty swivels; a decked schooner of eight 4-pounders and

twenty-eight swivels; an undecked schooner of fourteen swivels and fourteen oars, and an undecked schooner of twelve swivels and fourteen oars, all of which were unrigged late in the fall.

*French Strengthen Defenses.* — The French had strengthened Niagara, Toronto and Fort Frontenac, and their flag floated over Lake Ontario in almost undisputed sway. The Marquis de Vaudreuil opened the campaign in 1756 by sending de Lery with 250 French and 80 Indians to capture some small forts which had been constructed on the road to Oswego for the protection of convoys proceeding thither. Three hundred men were also despatched from Fort Frontenac under Captain de Villier, with instructions to establish themselves at some favorable point in the vicinity of Oswego, and if possible to capture the fort at that place. Captain Villier erected a stockade fort in a dense part of the forest, which was soon detected by the Iroquois Indians, who became much alarmed by such unauthorized occupation of territory, and sent, by the advice of Sir William Johnson, a deputation to Montreal to remonstrate with Vaudreuil and request him to demolish the fort. This he refused to do; but promised the Indians that if they would remain neutral he would protect them from every insult.

No sooner had the Iroquois been dismissed with this promise and many rich presents, than Vaudreuil took measures to strengthen Villier and to prepare for the capture of the British vessels which then began to appear on Lake Ontario. Montcalm approved the measures taken by Vaudreuil with respect to Oswego, and directed one of the other generals, Bourlemaque, to push forward to Villier's camp and to take command. From Montreal Montcalm hastened to Fort Frontenac to make further preparations for the capture of Oswego.

Lieutenant-Colonel Bradstreet, of the British forces, was determined to reduce Fort Frontenac, or, as it is called in the narrative of his expedition, Fort Cadaraqui, to destroy the enemy's shipping there and thus deprive them of the dominion of the lakes, which the French then held through

their fleet. Colonel Bradstreet therefore led a detachment of raw Irish troops with a convoy of provisions from Albany to Oswego, and while he was descending the Onondaga river, Villier, with a force of 700 French and Indians, pushed forward to intercept him, but became lost in the dense forests and reached the river after Bradstreet had safely passed down to Oswego. Fearing an attack, Colonel Bradstreet divided his canoes into three divisions, and advanced up the river. He was fiercely attacked by the French, July 3, 1756, and in the battle that ensued, completely defeated Villier. His loss amounted to 60 killed and wounded, while the French lost 100 killed and 70 wounded.

*Montcalm Captures Oswego.* — Montcalm then made preparations to lay siege to Oswego, and left Fort Frontenac on August 4, to carry out this design. He arrived in the evening of the same day at Sacket's Harbor, where he had more than 3,000 men. On the 9th of the month his vanguard was within one and a half miles of Oswego, and on the night of the 12th he opened his guns on Fort Ontario, which stood on the opposite side of the river from Fort Oswego. A spirited battle was fought in which the French were successful. The English lost 150 in killed and wounded during the siege and the French only 80. The French captured 1,600 prisoners, 120 cannon and mortars, 6 sloops of war, 200 boats, a large amount of stores, ammunition and provisions, and £18,000 in coin.

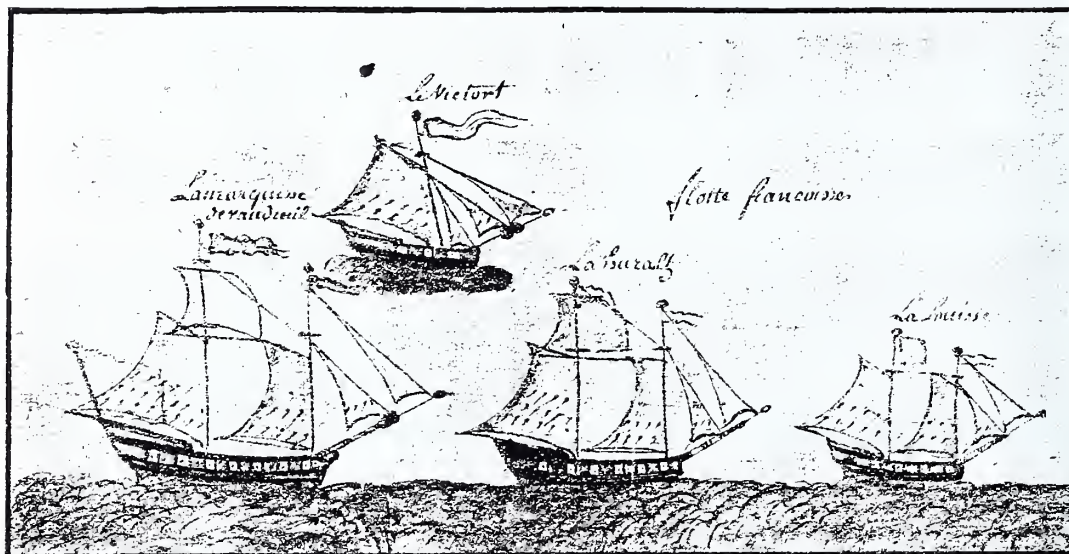
This capture terminated the campaign of 1756 entirely in favor of the French, who were greatly astonished at their success at Oswego.

When Oswego surrendered to the French in 1756 there was there quite a shipbuilding yard. Nine vessels were finished, one of them carrying eighteen guns, and there were others upon the stocks. But most of the vessels used on Lake Ontario during the war were bateaux.

*Fall of Fort Frontenac.* — For the next two years the war went on furiously in all parts of North America, but for some time no further operations were conducted on Lake Ontario. The French were for a





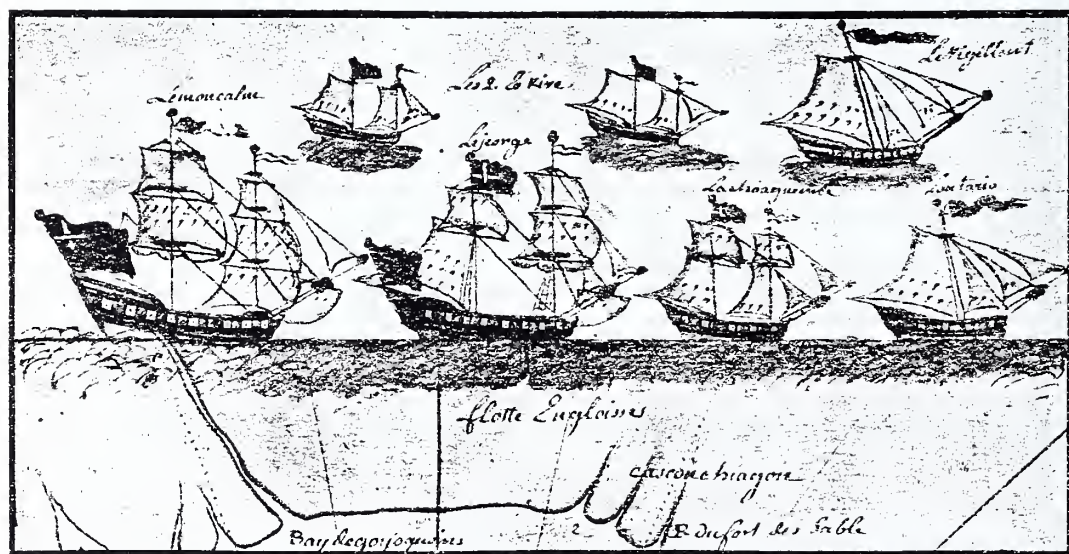


THE FRENCH FLEET ON THE ST. LAWRENCE AND LAKE ONTARIO 1758-60.

La Marquise de Vaudreuil  
The French Fleet—Lake Ontario, 1757—from a map in British Museum.

Le Victort

La Louise



THE ENGLISH FLEET ON THE ST. LAWRENCE AND LAKE ONTARIO 1758-60.

The Montcalm  
The English Fleet—Lake Ontario, 1757—from a map in British Museum.

Les Eves (The Lively)

Le Vigilant (The Vigilant)  
L'Ontario (The Ontario)

\*Lactraguence  
\*Untranslatable—printed as written.

From "Robertson's Landmarks of Toronto."

time constantly victorious, but William Pitt was placed at the head of affairs in England, and soon a great change was noticeable. General Amherst was sent to North America to take command, reaching Halifax May 28, 1758. Louisburg was captured. Colonel Bradstreet still pressed his plan of campaign against Fort Frontenac, and was soon on his way with 3,000 militia and forty-two of the Onondaga Indians, led by their chief, Red Head. Bradstreet speedily crossed Lake Ontario, and, August 25, 1758, landed within a mile of the fort, and opened his guns at 500 yards. Finding this distance too great, he took possession of an old intrenchment near the defense, where his guns opened with effect. As the garrison consisted of only 120 soldiers and forty Indians it was impossible for it to hold out, and it surrendered on the morning of the 27th.

This was a most important victory for the English, and a most disastrous loss to the French. The fort, which was a square stone one, was blown up, seven vessels were captured, which are described in the narrative of Bradstreet's expedition, written by a member of it, as "a snow, a brig, three schooners and two sloops." There was a great variety of Indian goods and provisions, the latter being "in prodigious quantity on the wharf, piled up against the storehouse along the whole length." There was judged to be 10,000 barrels, and in the fort there were found sixty pieces of cannon, sixteen mortars and six brass patterarars, all of which were destroyed. The Indian goods, with which the stores were filled, were estimated to have cost in the first place 800,000 livres (\$175,000). The greater portion of these goods were burned, Colonel Bradstreet's bateaux being too deeply laden with provisions, etc., and too much crowded to admit of any considerable addition to their cargoes, without greatly endangering them on Lake Ontario.

On the 31st the vessels, all but two of them, were set on fire and sent adrift on Lake Ontario. Furs were placed on board one of the two vessels not destroyed, and carried to Oswego.

The dimensions of the vessels captured

can not be accurately stated; they carried from nine to eighteen guns each.

A map in the British Museum shows the French fleet on the St. Lawrence and Lake Ontario in 1758-60, and must have been a portion of the fleet captured at Fort Frontenac by Colonel Bradstreet, the names of the vessels portrayed being, *Le Marquise de Vaudreuil*, *Le Victort*, *Le Huzalt*, and *La Louise*.

The names of the vessels comprising the English fleet on Lake Ontario at the same time were as follows: *Le Montcalm* (The Montcalm); *Les Evive* (The Lively), *Le Vigilant* (The Vigilant); *Le George* (The George), *L'Ontario* (The Ontario), and the *Lactraguence*. The accompanying illustration is a reproduction of a cut of these vessels, found by Hon. J. Ross Robertson, of Toronto, in the British Museum, and used here with his permission.

One historian of the period states that the two vessels of the fleet captured at Fort Frontenac, that were saved by Colonel Bradstreet, were *Le Marquise* and a brigantine, the latter of which may have been *Le Montcalm*, which formed a part of the English fleet in 1758-60.

In Cooper's "Pathfinder" occurs the following paragraph, which is interesting in this connection: "'We have made an awful run, Captain,' returned the man to whom this remark had been addressed. 'That is the French king's ship, *Lee-my-calm* (*Le-Montcalm*), and she is standing in for Niagara, where her owner has a garrison and a fort.'" This vessel is described by Cooper as a full-rigged ship, with no imperfection about her.

Following is a translation of *Montcalm's* dispatch to his minister in France, announcing the capture of Fort Frontenac: "The enemy have taken Fort Frontenac, which, in truth, is immaterial, but, what is more aggravating, they have captured considerable supplies, quantities of merchandise, eighty cannon, large and small, and have destroyed the shipping which was a result of my taking Chouaguen (Oswego), as well as destroying five of our ships, and capturing two. That shipping assured us the su-



premacv on Lake Ontario, which we have lost in a moment."

*Fort Niagara Surrenders.*—In 1759, in order to prevent little Fort Niagara from falling into the hands of the English, the garrison destroyed it. This was by order of Joncaire, in command of the French. It was in this year that the English commander, General Prideaux, demanded the surrender of Fort Niagara from the French, and, being refused, he laid siege to it, and was killed in the attempt to capture it. He was succeeded by Sir William Johnson, who pushed the war forward with vigor, capturing Fort Niagara before re-inforcement could reach it from Venango on Lake Erie. When these re-inforcements reached Navy island, they heard of the fall of Fort Niagara, and, believing the two vessels that had brought them down would certainly fall into the hands of the English, they took them, together with some smaller ones that had been built on Navy island, to the northern end of Grand island, and there set them on fire. As late as 1850 the remains of these vessels could be seen at the bottom of the river, and it was from this circumstance that the arm of the river where they lay was named "Burnt Ship Bay."

*A French Vessel Founders.*—In the *Maryland Gazette*, August 23, 1759, is the following: "By a letter from Niagara of the 21st ult., we learn that by the assistance and influence of Sir William Johnson there were upwards of eleven hundred Indians convened there, who by their good behavior have justly gained the esteem of the whole army; that Sir William, being informed that the enemy had buried a quantity of goods on an island about twenty miles from the post, sent a number of Indians to search for them, who found to the value of eight thousand pounds, and were in hopes of finding more; and that a French vessel, entirely laden with beaver, had foundered on the lake, where her crew, consisting of forty-one men, were all lost."

#### CONCLUSION.

In 1759 when M. Pouchot was sent by M. de Vaudreuil to Niagara he says that at La Presentation (Ogdensburg) bateaux were

found that had been sent to meet them, that they embarked and that on the 4th they reached Point au Baril, three leagues above La Presentation. There two barques were being built, each of which was to carry ten pieces of 12-pound cannon. On the 9th one of the barques was launched and named the Iroquois, the other being launched on the 12th, and named the Outaouaise. On the 25th the French troops left for Niagara, arriving there on the 30th. In June, 1759, M. Pouchot sent a troop of Indians from Niagara to Oswego to watch the English, they going on the Outaouaise. On the way this vessel was caught in a gale of wind, which was so fierce that it carried away the mainmast and bowsprit. They were, therefore, obliged to run down to La Presentation, and were thus prevented from cruising in front of Oswego to watch the English. These Indians had never before encountered a tempest in a vessel, and were so greatly frightened that they threw overboard their ornaments, arms and tobacco, in order if possible to appease the Manitou of the lake. There was on board a Canadian who was a mere dwarf in stature. The Indians had never before seen so small a man, and took him for a Manitou, and were with difficulty prevented from killing him and throwing him overboard.

In writing of the attack on Oswego in 1760, Pouchot says that the English had built five great bateaux of thirteen oars on each side and with a cannon at the end. The two vessels mentioned above, the Iroquois and the Outaouaise, did valiant service for the French during the war on Lake Ontario, but they were at length captured by the English. There were two other vessels on this lake about the same time, named respectively the Seneca, of 22 guns, and the Oneida, of 18 guns.

The fall of Fort Frontenac and Fort Niagara gave the British control of Lakes Ontario and Erie. The scepter of France had departed forever from the Inland seas. The eventful history of French possession had been concluded and the ensign of England floated unquestioned from the masts of the few ships that sailed the Great Lakes.

## CHAPTER IX.

### UNDER ENGLISH RULE.

MAJOR ROGERS TAKES POSSESSION OF DETROIT—THE REMOTER POSTS ALSO FALL UNDER BRITISH SOVEREIGNTY—INDIANS ARE HOSTILE—DENUNCIATION OF THE CHIPPEWA CHIEF—PONTIAC'S CONSPIRACY—FALL OF FORT SANDUSKY—ST. JOSEPH'S POST TAKEN—MASSACRE AT MICHILIMACKINAC—GARRISON AT GREEN BAY ESCAPES—PRESQUE ISLE SURRENDERS—INVESTMENT OF DETROIT—MASSACRE AT DEVIL'S HOLE—POLICY OF PACIFICATION—POSSESSION OF THE LAKES REGAINED—HENRY'S NARRATIVE—BRADSTREET'S DISASTROUS RETURN VOYAGE—ENGLAND DISCOURAGES EMIGRATION—COPPER MINING AND FUR TRADING—RIVAL FUR COMPANIES—EARLY VESSELS ON LAKE SUPERIOR—SHIPS ON THE LOWER LAKES—SHIP BUILDING PROSPECTS—THE LAKES DURING THE REVOLUTIONARY WAR—SPANISH FLAG ON LAKE MICHIGAN WATERS—THE TREATY OF PEACE—ARRANGING THE BOUNDARY LINE—THE LINE FINALLY ADOPTED—THE TREATY OF PARIS—GREAT BRITAIN RETAINS POSSESSION—JAY'S TREATY—POSTS SURRENDERED.

A wet sheet and a flowing sea,  
A wind that follows fast,  
And fills the white and rustling sail,  
And bends the gallant mast,  
And bends the gallant mast, my boys,  
While like the eagle free  
Away the good ship flies, and leaves  
Old England on the lea.

*Allan Cunningham.*

**M**ONTREAL having fallen and Canada having become an English dependency, Major Robert Rogers, in 1760, was assigned the task of taking possession of the few western outposts which dotted here and there the Great Lakes. Rogers was a native of New Hampshire, tall and strong in person and rough in feature. He left Montreal September 13, with 200 rangers in 15 whale boats, reached Lake Ontario, skirted its northern shores, amid rough and boisterous weather, and, crossing its western extremity, arrived at Fort Niagara October 1. Crossing the portage, the detachment remained a few days, while Rogers with a few attendants conveyed dispatches to Fort Pitt. Rejoining his command at Fort Presque Isle, about October 31, they proceeded along the southern margin of Lake

Erie. The lake was rough and the wind chill. Reaching the mouth of a stream, called by Rogers the river Chogage, November 7, Pontiac and a party of Indian chiefs and warriors arrived and demanded his business in that country. It was farther than a body of troops under the English flag had ever before penetrated into the western country.

After a parley lasting several days, Pontiac permitted the troops to proceed. They started again November 12, and a few days later reached the western end of Lake Erie. Four hundred hostile warriors, friendly to the French, lay in ambush at the mouth of the Detroit river, but the powerful influence of Pontiac enabled Rogers and his band to proceed. Slowly the whale boats of the rangers moved up between the low green banks of the Detroit river until the settlement came in sight. On the right were the wigwams of the Wyandots, and on the left the lodges of the Pottawatomies, while a little farther up the stream could be seen, above the weather-beaten palisades of the fort, the flag of France. Landing on the opposite side of the river, November 29, 1760, the rangers encamped in a meadow.

while two officers were dispatched to the garrison, to demand its surrender. The colors were lowered, and the cross of St. George unfurled in its place.

Rogers proceeded westward with a small party to relieve the French garrison of Michilimackinac. The storms and gathering ice of Lake Huron drove him back to Detroit. The next season, in 1761, a detachment of the 60th regiment took possession of Michilimackinac, and the three remoter posts of St. Marie, Green Bay and St. Joseph, and the whole chain of the Great Lakes thereby fell under the sovereignty of Great Britain. A few feeble forts widely scattered, manned in all by 500 or 600 men, held the vast dominion of inland waters, destined within a century to become the highway of a marvelous traffic.

*The Indians are Hostile.*—But though the lakes had fallen, the Indians were unappeased. Their friendship and their aid in battle had been given the French. Henry, an adventurous and daring English trader, had pushed on to Michilimackinac before the English garrison arrived, and found himself in deadly peril. He thus describes his situation in the midst of enemies:

“The hostility of the Indians was exclusively against the English. Between them and my Canadian attendants there appeared the most cordial goodwill. This circumstance suggested one means of escape, of which, by the advice of my friend, Campion, I resolved to attempt availing myself; and which was, that of putting on the dress usually worn by such Canadians as pursue the trade into which I had entered, and assimilating myself, as much as I was able, to their appearance and manners. To this end, I laid aside my English clothes, and covered myself only with a cloth, passed about the middle; a shirt, hanging loose; a molton, or blanket cloak; and a large, red, milled worsted cap. The next thing was to smear my face and hands with dirt and grease; and, this done, I took the place of one of my men, and, when Indians approached, used the paddle, with as much skill as I possessed. I had the satis-

faction to find that my disguise enabled me to pass several canoes without attracting the smallest notice.

“On the island, as I had previously been taught to expect, there was a village of Chippewas, said to contain a hundred warriors. Here I was fearful of discovery, and consequent ill-treatment; but after inquiring the news, and, particularly, whether or not any Englishman was coming to Michilimackinac, they suffered us to pass uninjured. One man, indeed, looked at me, laughed and pointed me out to another. This was enough to give me some uneasiness; but, whatever was the singularity he perceived in me, both he and his friend retired, without suspecting me to be an Englishman.”

The thoroughness with which the French had imbued the minds of the Indians against the English, in the latter's attempt to gain possession of the upper lakes, is farther shown by the speech of the Chippewa chief Minavavana, to the trader Henry, who had thus daringly visited Michilimackinac in advance of the English garrison:

“Englishman, it is to you that I speak, and I demand your attention!

“Englishman, you know that the French king is our father. He promised to be such; and we, in return, promised to be his children. This promise we have kept.

“Englishman, it is you that have made war with this our father. You are his enemy; and how, then, could you have the boldness to venture among us, his children? You know that his enemies are ours.

“Englishman, we are informed that our father, the king of France, is old and infirm; and that being fatigued, with making war upon your nation, he is fallen asleep. During his sleep you have taken advantage of him, and possessed yourselves of Canada. But, his nap is almost at an end. I think I hear him already stirring, and inquiring for his children, the Indians; and, when he does awake, what must become of you? He will destroy you utterly.

“Englishman, although you have conquered the French, you have not yet conquered us! We are not your slaves. These lakes, these woods, and mountains, were left



us by our ancestors. They are our inheritance; and we will part with them to none. Your nation supposes that we, like the white people, cannot live without bread—and pork—and beef! But, you ought to know that He, the Great Spirit and Master of Life, has provided food for us, in these spacious lakes, and on these woody mountains.

"Englishman, our father, the king of France, employed our young men to make war upon your nation. In this warfare many of them have been killed; and it is our custom to retaliate, until such time as the spirits of the slain are satisfied. But, the spirits of the slain are to be satisfied in either of two ways; the first is by the spilling of the blood of the nation by which they fell; the other, by covering the bodies of the dead, and thus allaying the resentment of their relations. This is done by making presents.

"Englishman, your king has never sent us any presents, nor entered into any treaty with us, wherefore he and we are still at war; and, until he does these things, we must consider that we have no other father, nor friend among the white men, than the king of France; but, for you, we have taken into consideration, that you have ventured your life among us, in the expectation that we should not molest you. You do not come armed, with an intention to make war; you come in peace, to trade with us, and supply us with necessaries, of which we are much in want. We shall regard you, therefore, as a brother; and you may sleep tranquilly, without fear of the Chippewas. As a token of our friendship, we present you with this pipe to smoke."

Henry's fears were dissipated by the opportune arrival next day of three hundred troops of the 60th regiment, under the command of Lieutenant Leslie.

#### PONTIAC'S CONSPIRACY.

And though Canada had fallen, a treaty of peace had not yet been signed, and the English possession of the Great Lakes was not secure. Beyond, on the Mississippi, were French settlements engaged in the fur trade. The Indians, accustomed to French manners, resented the brusque English

ways and listened to the tales of the French that the English were plotting Indian extermination. Pontiac's conspiracy followed, and all the forts on the Great Lakes held by the English were doomed to destruction and their occupants to massacre and torture, except Detroit, which withstood a vigorous and protracted siege.

*Fall of Fort Sandusky.*—Fort Sandusky fell May 16, 1763, seven treacherous Indian visitors seizing Ensign Paully, the commanding officer, while his garrison was massacred. Paully was taken prisoner to Detroit, expecting to be burned alive, but an old squaw, whose husband had recently died, wanted Paully for a substitute, and her whim was humored, Paully accepting the bride in preference to the stake.

*St. Joseph's Post Is Taken.*—The post at St. Joseph's, which stood at the mouth of St. Joseph's river, near the head of Lake Michigan, fell by similar treachery May 25, 1763. Ensign Schlosser was in command with fourteen men. On the morning of the fatal day, a large party of Pottawatomies had arrived from Detroit for the ostensible purpose of visiting relatives. Insolent savages crowded the fort, and when Schlosser called to his sergeant to get the men under arms, the Indians seized the sentinel and within two minutes, declared the officer. eleven men were killed and the three survivors, he among them, bound hand and foot. They were taken to Detroit and exchanged for Indian prisoners.

*Massacre at Michilimackinac.*—Still more horrible was the massacre at Michilimackinac. The fort stood on the south shore of the straits, close upon the margin of the lake. A cluster of French-Canadian houses, roofed with bark and protected by picketed fences, stood beyond. High palisades surrounded the fort, and within were barracks and other buildings. Captain Etherington, the commandant, had been several times warned that the Indians were plotting treachery, but he paid no heed. On June 2, or, according to the trader, Henry, June 4, a large band of Ojibways, encamped in the vicinity, invited the officers and soldiers to come out and see a grand game of ball, to be played between that

nation and several bands of Sacs. Discipline was relaxed; the gates were wide open, and the soldiers were lounging carelessly about. Captain Etherington and Lieutenant Leslie stood near the door. Hundreds of half naked, athletic savages were leaping and running on the plain without, now massing and struggling for the ball, and again widely scattering. Suddenly the ball rose high in the air and fell near the pickets of the fort. Forward swarmed the yelling savages; a moment later they were at the gates. Snatching hatchets, which squaws had concealed beneath blankets, they raised the war whoop. The trader, Henry, had not gone to the fort, but was writing letters in one of the Canadian houses. He heard the war cry, and thus describes the scene: "Going instantly to my window, I saw a crowd of Indians within the fort, furiously cutting down and scalping every Englishman they found. In particular, I witnessed the fate of Lieutenant Jamette. I had, in the room in which I was, a fowling piece loaded with swan shot. This I immediately seized and held it for a few minutes, waiting to hear the drums beat to arms. In this dreadful interval I saw several of my countrymen fall, and more than one struggling between the knees of an Indian, who, holding him in this manner, scalped him while yet alive."

Mr. Henry then recounts his own marvelous escape, his concealment in the garret of an adjoining house by an Indian servant, his surrender to the Indians by the Canadian Langlade. With about twenty other captives they were taken to the Isles du Castor. Here seven of the captives were slain. Henry was rescued by an Indian friend, Wawatam, who had adopted him. At the outset Captain Etherington and Lieutenant Leslie had been seized and made captives, together with a number of other soldiers. The Ottawas, who had not been invited by the Ojibways to participate in the massacre, demanded the prisoners as their share of the spoils, and the captors reluctantly surrendered them. The prisoners fared well, indeed, by the exchange. They were treated kindly, though not

allowed their liberty. Captain Etherington, in a letter a few days after the massacre to the commandant of the post at Detroit, asking for aid, said: "They killed Lieutenant Jamette and fifteen rank and file, and a trader, named Tracy. They wounded two and took the rest of the garrison prisoners, five of whom they afterward killed. They made prisoners of all the English traders, and robbed them of every thing they had; but they offered no violence to the persons or property of any of the Frenchmen." Next to Detroit, Michilimackinac was the most important post on the upper lakes.

The posts of Green Bay and Sault Ste. Marie escaped the fate of Michilimackinac. The fort at the Sault had been partially destroyed by fire the previous winter, and the garrison temporarily abandoned and removed to Michilimackinac, but here many of the soldiers perished.

*Garrison at Green Bay Escapes.*—At Green Bay were seventeen men, a portion of the 60th regiment, commanded by Lieutenant Gorell. In the neighborhood were many powerful Indian tribes, including the Menomonies, the Winnebagoes, and the Sacs and Foxes; west of the Mississippi were the powerful Dakotas. Lieutenant Gorell won their friendship. June 15, 1763, an Ottawa Indian brought him a letter from Captain Etherington, dated Michilimackinac, June 11, in which he said: "This place was taken by surprise on the second instant by the Chippewas, at which time Lieutenant Jamette and twenty more were killed, and all the rest taken prisoners. But our good friends, the Ottawas, have taken Lieutenant Leslie and me and eleven men out of their hands, and have promised to reinstate us again." He asked Lieutenant Gorell to join him with his force. Lieutenant Gorell called a council of the Menomonies and related the news, saying he would march to the relief of Captain Etherington, and leave the fort at Green Bay in their good keeping. There was a slight stir of hostility, but a Dakota chief, who had just arrived, spoke in strong condemnation of their old enemies, the Ojibways, and this auspicious friendliness to the garrison won. Gorell's party, accompanied

by ninety warriors in canoes, embarked in several bateaux and crossed Lake Michigan in safety, arriving at the village of L'Arbre Croche June 30. Captain Etherington and his men were detained as prisoners by the friendly Ottawas, who were reluctant to set them at liberty. After several councils, the English, escorted by a fleet of Indian canoes, reached the portage of the Ottawa river, and reached Ottawa August 13.

The British had lost the upper lakes.

*Presqu'Isle Surrenders.*—*Presqu'Isle* surrendered June 16. Ensign Christie was in command with twenty-one men. He had learned of Lieutenant Cuyler's defeat near the Detroit river from the returning survivors, six of whom remained with him. He expected and prepared for attack. Two hundred Indians from the vicinity of Detroit approached, June 15, and after a two-days' fight, during which the fort was a number of times set afire from blazing arrows, and extinguished with difficulty, the garrison surrendered on promise that their lives would be spared. They were carried prisoners to Detroit, where Christie soon after made his escape and gained the fort in safety.

#### INVESTMENT OF DETROIT.

Meanwhile the fort at Detroit was invested by an increasing force of savages, under the implacable and ambitious Pontiac. The garrison consisted of 120 soldiers, under command of Major Gladwin, and about forty fur traders were at the post. The fort was nearly square, fronting on the river and surrounded by a palisade 25 feet high. At each corner was a wooden bastion, and a block house was erected over each gateway. Within were about one hundred small houses. Two small armed schooners, the *Beaver* and the *Gladwyn*, lay anchored in the stream. Major Gladwyn received information, May 6, that Pontiac was plotting treachery. The Indians were permitted to enter the fort, but the garrison was ordered under arms and the savages withdrew without using the short-barreled rifles concealed under their blankets. Three days later Pontiac was refused admission to the fort. His follow-

ers murdered several Englishmen living outside. Next day the fort was for six hours ineffectually attacked. The siege had commenced. The two vessels in the river gave material assistance in the work of defense. A supply of needed provisions and ammunition was on its way up the lakes for the use of Detroit and the other western posts. To hasten the expected convoy and to carry dispatches to Niagara, the schooner *Gladwyn* set sail for Niagara, and as she lay becalmed at the entrance of Lake Erie next day, a multitude of Indian canoes darted out from the shore to surround her. Fortunately a breeze sprang up at that moment, the schooner's sails filled and she moved onward.

Lieutenant Cuyler left Fort Niagara May 13, and embarked from Fort Schlosser, just above the Falls, in about twenty boats with ninety-six men and a plentiful supply of provision and ammunition. Coasting along the northern shore of Lake Erie, he landed June 28, at Point Pelee, drew the boats up on the beach and prepared to encamp. They received a blaze of musketry from the woods, and the Indians rushed upon them. In a panic the men broke and ran for the boats. Cuyler in his report said: "Being abandoned by my men, I was forced to retreat in the best manner I could. I was left with six men on the beach, endeavoring to get off a boat, which not being able to effect, was obliged to run up to my neck in the lake, to get to a boat that had pushed off without my knowledge. When I was in the boat I saw five boats manned, and the Indians having manned two boats pursued and brought back three of the five, keeping a continued fire from off the shore, and from the two boats that followed us for about a mile on the lake; the wind springing up fair, I and the remaining boat hoisted sail and escaped." They rowed all night, and landed in the morning on a small island. Between thirty and forty men, some wounded, were crowded in the two boats. Making for Sandusky they were astonished to find the fort burned, and slowly rowed along the south shore of the lake to Niagara.

When the gaunt garrison at Detroit, on the morning of May 30, saw the long line



of boats rounding the wooded projection on the farther side of the river, then called Montreal Point, while from the stern of the foremost boat flew the red flag of England, three loud cheers rang out, and a cannon pealed its note of welcome. But joy turned to anguish, when from the boats grimacing savages emitted yells of defiance. In each were two or more captives. In the foremost boat it chanced were four captives and only three Indians. When opposite the fort one bold soldier seized an Indian and threw him overboard, but was dragged down to death with him. The two remaining Indians leaped out, and the three prisoners seized the oars and pulled for the fort. Bullets flew about them, and the pursuing Indian canoes gained steadily. Suddenly a cannon ball from the anchored Beaver beat into foam the water close by, and the chase was checked. The prisoners reached the Beaver in safety. Their companions suffered a terrible fate of torture and death.

The schooner Gladwyn had passed the Cuyler convoy on her way down, and continued on to Niagara. There she remained until Cuyler with the remnant of his party returned. With the survivors and a few other soldiers that could be spared, the Gladwyn set sail again for Detroit. She was making her way up the Detroit river late on the afternoon of June 23, with a gentle breeze between the main shore and the long extended margin of Fighting island. About sixty men were on board, but only ten or twelve in sight upon the deck. Just before reaching the narrowest part of the channel, the wind died away and the anchor was dropped. During the night moving objects appeared on dark the surface of the water. They quietly approached to within a few rods, when to the tap of a hammer upon the mast, cannon and musketry blazed forth. Several canoes were sunk, fourteen Indians killed and many wounded. The Indians quickly withdrew, and began firing from concealed breastwork of logs on Turkey island. The Gladwyn weighed anchor and dropped beyond reach. Several days later she made the ascent and, though the Indians fired constantly from the shore, sustained no loss. As she passed the Wyandot

dot village, she sent a shower of grape among the yelping inhabitants, killing several. The schooner brought a much-needed supply of men, provision and ammunition, and also brought the important news that peace had been declared between England and France. The two armed schooners, anchored opposite the fort, annoyed and terrorized the besiegers. Gladwyn and several of his officers embarked aboard the Gladwyn one day, while a fresh breeze was blowing from the northwest. The Indians on the shore stood in amazement watching her as she tacked from shore to shore making way against wind and current. Making a long reach from the opposite shore, she came on directly toward the camp of Pontiac, her sails swelling, her masts leaning over till the black muzzles of her guns almost touched the river. Suddenly a shout of command was heard on board, she rose upright, and her sails flapped and fluttered as if tearing loose from their fastenings. Steadily she came round, broadside to the shore, then leaning once more to the wind bore away on the other tack. Soon was heard the hoarse rattling of her cable, as the anchor dragged it out, and her vast white wings were furling.

As they looked unsuspectingly on, a puff of smoke came from her side. The balls flew through their camp and tore among the forest trees beyond. The startled warriors bounded away, the squaws snatched up their children and fled. Several similar attacks were made, and the Indians, by means of burning rafts, sought several times, but vainly, to destroy the dreaded boat. On the morning of July 29, Captain Dalzell arrived from Niagara with twenty-two barges, bringing two hundred and eighty men, several small cannon and a fresh supply of provision and ammunition. They had passed up the river on a foggy night, but when between the Wyandot and Pottawatomie villages, the savages, who had recently made a treaty of peace, fired upon the convoy, killing and wounding fifteen of the men. The besieging forces of Pontiac were again increased and now numbered over 1,000. The schooner Gladwyn was again dispatched to Niagara. On her return

her crew consisted of Horst, her master, Mate Jacobs and ten men. Six Iroquois Indians, supposed to be friendly, were also aboard. They asked to be set ashore, on the night of September 3, as the schooner was entering the Detroit river, a request that was foolishly granted. The vessel was compelled to anchor about nine miles below the fort, as the wind was failing. As darkness set in, vigilant watchfulness began, but 350 Indians in canoes silently glided down the current and were close upon the vessel before they were seen. Only one cannon shot could be fired before they were beneath her bows and clambering up her sides. The crew gave them a volley of musketry, but still the savages swarmed over the sides. Flinging down their guns, the men seized spears and hatchets, and in a very short time killed more than twice their own number. But the master and one sailor were killed and four seriously disabled. The assailants were leaping over the bulwarks when Jacobs, the mate, called out to blow up the schooner. Some Wyandots, who had gained the deck, caught the meaning of the order and gave the alarm to their companions. Every Indian leaped overboard to escape the threatened explosion, and dared not renew the attack. On the following morning the Gladwyn sailed for the fort and reached it in safety. Six of the gallant twelve had escaped unhurt.

*Massacre at Devil's Hole.*—Later in the year, while Detroit was still invested, the savages perpetrated another terrible outrage on the Niagara river. It occurred September 14, 1763, at Devil's Hole, three miles below Niagara Falls.

A convoy of soldiers was returning to Fort Niagara from Fort Schlosser, situated above the Falls, to which post the previous day they had conveyed provisions. An ambuscade of Seneca Indians destroyed the entire party and the twenty-four soldiers guarding them, except three, who almost miraculously escaped. A rescuing party of two companies was also cut to pieces.

*To Relieve Detroit.*—Soon after Major

Wilkins left Fort Niagara with 600 regulars for the relief of Detroit. While forcing their boats through the swift current above the Falls, they were thrown into confusion by an Indian attack and retired to Fort Schlosser. Again setting out, they reached Lake Erie in safety. But as they approached their destination a fierce storm arose at night and drove ashore or wrecked a large number of their frail bateaux. About seventy men perished and all the ammunition and stores were lost. The shattered flotilla was forced back to Niagara.

The siege at Detroit languished as the winter drew on and most of the savages scattered to remote regions for better subsistence.

*Policy of Pacification.*—In the spring of 1764 Sir William Johnson attempted the new policy of pacifying the savage hordes on the borders of the lakes, as well as the inland frontier, and for that purpose held at Fort Niagara a conference with many tribes. To render the scene more impressive, Col. Bradstreet had arrived from Albany with a body of troops to aid in regaining possession of the frontier. The boats and bateaux, crowded with men, crossed Lake Ontario from Oswego. A storm threw the flotilla into confusion, and it was several days before the troops landed at Fort Niagara. The meeting was only partly successful, but one of the conditions imposed by the treaty that was made, was the cession by the Indians to the British Crown of a strip of land, four miles in width, on each side of the Niagara river from Lake Ontario to Lake Erie.

Bradstreet and his army left Fort Schlosser August 8, 1764, and with their boats and bateaux coasted along the southern shore of lake Erie. When near Presque Isle, on the 12th, a storm drove them ashore. After making futile treaties with the Delawares, Shawnees and other Ohio tribes, Bradstreet reached Detroit August 26, and was royally received by Gladwyn and his beleaguered troops. At Detroit he punished a few Canadians who had given aid to the Indians. Treaties of peace were signed with the chiefs of the neighboring tribes, except Pontiac, who had fled to the

West to stir up additional strife against the English.

From Detroit Bradstreet dispatched Captain Howard with a strong detachment to take possession of Michilimackinac, which had been abandoned since the massacre the previous year. Howard accomplished this mission without opposition, and also sent bodies of troops to reoccupy the deserted posts at Green Bay and Sault Ste. Marie. The flag of England thus again floated over all the great lakes, after having been lowered by a savage outburst that held sway for little more than a year.

*Henry's Narrative.*—Henry, the English trader, was a member of Bradstreet's expedition. He gives an interesting account of the voyage, as follows: "At Fort Niagara, I found General Bradstreet, with a force of three thousand men, preparing to embark for Detroit, with a view to raise the siege which it had sustained against Pontiac for twelve months together. The English in this time had lost many men; and Pontiac had been frequently on the point of carrying the place, though gallantly defended by Major Gladwyn, its commandant.

"General Bradstreet, having learned my history, informed me that it was his design on arriving at Detroit, to detach a body of troops to Michilimackinac, and politely assured me of his services in recovering my property there. With these temptations before me I was easily induced to follow the general to Detroit.

"But I was not to go as a mere looker on. On the contrary, I was invested with the honor of a command in a corps, of the exploits, however, of which I can give no very flattering account. Besides the sixteen Saulteurs, or Chippewas of the Sault de Sainte-Marie, with whom I had come to Fort Niagara, there were already at that place eighty Matchedash Indians, the same whose lodges we passed at the carrying-places of Lake aux Claies. These ninety-six men, being formed into what was called the Indian Battalion, were furnished with necessities; and I was appointed to be their leader—me, whose best hope it had been very lately, to live through their forbearance.

"On the 10th of July, the army marched

for Fort Schlosser, a stockaded post above the Great Falls; and I ordered my Indians to march also. Only ten of the whole number were ready at the call; but the rest promised to follow the next morning. With my skeleton battalion, therefore, I proceeded to the fort, and there waited the whole of the next day, impatiently expecting the remainder. I waited in vain, and the day following returned to Fort Niagara, when I found they had all deserted, going back to their homes, equipments and all, by the way of Toronto. I thought their conduct, though dishonest, not very extraordinary, since the Indians employed in the siege of Detroit, against whom we were leading them, were at peace with their nation, and their own friends and kinsmen.

"For the transport of the army, on Lake Erie, barges had been expressly built, capable of carrying a hundred men each, with their provisions. One of these was allowed to me and my Indians. On the 14th we embarked at Fort Schlosser, and in the evening encamped at Fort Erie. Here the Indians, growing drunk, amused themselves with disorderly firing of their muskets, in the camp. On this, General Bradstreet ordered all the rum in the Indian quarters to be seized and thrown away. The Indians in consequence threatened to desert; and the general, judging it proper to assume a high tone, immediately assembled the chiefs (for among the fourteen Indians there were more chiefs than one) and told them, that he had no farther occasion for their services, and that such of them as should follow his camp would be considered as soldiers, and subjected to military discipline accordingly. After hearing the general's speech, the majority set out for Fort Niagara, the same evening, and thence returned to their own country, by the way of Toronto; and thus was my poor battalion still further diminished!

"On our fifth day from Fort Schlosser, we reached Presque Isle, where we dragged our barges over the neck of land, but not without straining their timbers; and with more loss of time, as I believe, than if we had rowed around. On the twentieth day, we were off the mouth of the river, which



falls into Sandusky Bay, where a council of war was held, on the question, whether it were more advisable to attack and destroy the Indian villages, on the Miami, or to proceed for Detroit direct. Early the next morning, it having been determined that, considering the villages were populous as well as hostile, it was necessary to destroy them, we entered the Miami; but were promptly met by a deputation, offering peace. The offer was accepted; but it was till after two days, during which we had begun to be doubtful of the enemy's intention, that the chiefs arrived. When they came, a sort of armistice was agreed upon; and they promised to meet the general at Detroit, within fifteen days. At that place, terms of peace were to be settled, in a general council. On the 8th of August we landed at Detroit.

"The Indians of the Miami were punctual, and a general peace was concluded. Pontiac, who could do nothing against the force which was now opposed him, and who saw himself abandoned by his followers, unwilling to trust his fortunes with the English, fled to the Illinois.

"On the day following that of the treaty of peace, Captain Howard was detached, with two companies and three hundred Canadian volunteers, for Fort Michilimackinac, and I embarked at the same time. From Detroit to the mouth of Lake Huron is called a distance of eighty miles. From the fort to Lake Sainte Claire, which is only seven miles, the lands are cultivated on both sides of the strait, and appeared to be laid out in very comfortable farms. In the strait, on the right hand, is a village of Hurons, and at the mouth of Lake Sainte Claire, a village of Ottawas. We met not a single Indian on our voyage, the report of the arrival of the English army having driven every one from the shores of the lake. On our arrival at Michilimackinac, the Ottawas of L'Arbre Croche were sent for to the fort. They obeyed the summons, bringing with them some Chippewa chiefs, and peace was concluded with both.

"The exclusive trade of Lake Superior was given to myself, by the commandant of Fort Michilimackinac; and to prosecute it, I purchased goods, which I found at this

post, at twelve months credit. My stock was the freight of four canoes, and I took it at the price of ten thousand pounds weight of good and merchantable beaver. It is in beaver that accounts are kept at Fort Michilimackinac; but in defect of this article, other furs and skins are accepted in payments, being first reduced unto their value in beaver. Beaver was at this time at the price of two shillings and sixpence per pound, Michilimackinac currency; other skins at sixshillingseach; marten, at one shilling and sixpence, and others in proportion.

"To carry the goods to my wintering ground in Lake Superior, I engaged twelve men, at two hundred and fifty livres, of the same currency, each; that is, one hundred pounds weight of beaver. For provisions, I purchased fifty bushels of maize, at ten pounds of beaver per bushel. At this place, specie was so wholly out of the question that in going to a cantine you took a marten's skin to pay your reckoning."

*Bradstreet's Disastrous Return Voyage.*

—Bradstreet's return journey from Detroit was marked by incompetency and petulance, because the treaties he had made with the faithless Ohio savages had been broken by the Indians and rejected by the United States Government. Soon after leaving Sandusky early in October he encamped on an open exposed beach, on the south shore of Lake Erie, though there was close by a large stream "wherein a thousand boats could lie with safety." A tempest arose, which lasted three days; half the boats were dashed to pieces, and six pieces of cannon ammunition, provisions, arms and baggage were lost or abandoned. A detachment of the troops, and some Indians, about 150 in all, were ordered to make their way by land to Niagara, and many perished along the pathless borders of the lake, suffering from cold, fatigue and hunger, from wading swamps, swimming rivers and creeks, and forcing their way through rough and tangled thickets. The main body reached Niagara November 4. But on Lake Ontario, when near Oswego, a second storm arose and one of the schooners, crowded with troops, sank. Most of the men, however, reached the shore in safety.

In an article in *Lippincott's Magazine*, Constance Fenimore Woolson fixes the scene of the wreck of the relief army in the fall of 1764, and of the disaster which befell General Bradstreet's fleet of bateaux, both at Rocky river, near Cleveland. From time to time after heavy storms portions of old bateaux have been thrown up on the Rocky river beach. In 1842, during a severe gale, the sandbar shifted its position at the mouth of the river, and quantities of gun flints, brass musket guards, musket barrels and bayonets were washed ashore. Along this beach many relics have been found; silver teaspoons, of antique design, heavily moulded and engraved with various initials, doubtless once the property of British officers, and an ancient and elaborately finished sword. The provincials who accompanied Bradstreet were from New York, New Jersey and Connecticut, and were commanded by Major Israel Putnam, afterward major-general of the United States army.

#### ENGLAND DISCOURAGES EMIGRATION.

But the acquisition of Canada and the Great Lakes by Great Britain did not result in any measures for the settlement of the lake region, or in any increase of commerce. On the contrary, the policy adopted discouraged emigration. By royal proclamation issued in 1763 it was decreed that "no governor or commander-in-chief of our other colonies or plantations in America do presume, for the present, and until our further pleasure be known, to grant warrants of survey or pass patents for any lands beyond the heads or sources of any of the rivers which fall into the Atlantic Ocean from the West or Northwest." A desire to conciliate the Indians, it has been said, was one of the motives for this prohibition. General Washington took that view. Writing in 1767 to Colonel Crawford he said: "I can never look upon that proclamation in any other light (but this I say between ourselves) than a temporary expedient to quiet the minds of the Indians." Whatever the cause, it was exceedingly unpopular among the American colonies. Several land companies were organized to people the Western country, but failed to receive

the royal assent. Hinsdale says: "The facts show conclusively that in the years following the French war the Western policy of the British was not steady or consistent, but fitful and capricious; prompted by a solicitude for the Indians that was partially feigned, and partly by a growing jealousy of the shore colonies. The policy of restriction culminated in 1774 in the Quebec Act." This Act, among other provisions, extended the Province of Quebec on the north to Hudson Bay, and on the west and southwest to the Ohio and Mississippi. One aim was to propitiate the French population of Canada, the other to permanently sever the West from the Shore colonies. As defined by the proclamation of 1763 the Province of Quebec had been confined to territory east of Lake Nipissing and the St. Lawrence; but by the Act of 1774 it was extended to the Great Lakes region and Ohio Valley. To the American colonies the Quebec Act was extremely odious.

#### COPPER MINING AND FUR TRADING.

Two industries engaged attention on the upper lakes during the English dominion—copper mining and fur trading. Capt. Jonathan Carver, in his "Three Years Travel Through the Interior Parts of North America," from 1766 to 1769, writes a glowing account of the copper mines in the Lake Superior region.

The first attempt at extensive copper mining in the Lake Superior region, which occurred a little later, is described by Henry. It was instituted to mine gold, the yellow sand on the island of Michipicoten having been mistaken for the precious metal, but later the mining operations were turned to copper. Henry says: "In 1770, Mr. Baxter, who had sailed for England, returned, bringing with him papers, by which, with Mr. Bostwick and himself, I was constituted a joint-agent and partner in and for a company of adventurers for working the mines of Lake Superior. We passed the winter together at Sault Sainte-Marie, and built a barge fit for the navigation of the lake, at the same time laying the keel of a sloop of forty tons. Early in May, 1771, the lake becoming navigable, we departed from Point

aux Pins, our shipyard, at which there is a safe harbor, and of which the distance from the Sault is three leagues. We sailed for the island of the yellow sands, promising ourselves to make our fortunes, in defiance of its serpents.

Hence we coasted westward; but found nothing until we reached the Ontonagan, where besides the detached masses of copper, formerly mentioned, we saw much of the same metal bedded in stone. Proposing to ourselves to make a trial on the hill till we were better able to go to work on the solid rock, we built a house and sent to Sault de Sainte-Marie for provisions. At the spot pitched upon for the commencement of our preparations, a green-coloured water, which tinged iron of a copper colour, issued from the hill; and this the miners called a leader. In digging they found frequent masses of copper, some of which were of three pounds weight. Having arranged everything for the accommodation of the miners during the winter, we returned to the Sault.

Early in the spring of 1772 we sent a boat-load of provisions; but it came back on the twentieth day of June, bringing with it, to our surprise, the whole establishment of miners. They reported that in the course of the winter they had penetrated forty feet into the hill; but that on the arrival of the thaw, the clay on which, on account of its stiffness, they had relied, and neglected to secure it by supporters, had fallen in; that to re-commence their search would be attended with much labor and cost; that from the detached masses of metal, which to the last had daily presented themselves, they supposed there might be ultimately reached some body of the same, but could form no conjecture of its distance, except that it was probably so far off as not to be pursued without sinking an air-shaft; and, lastly, that this work would require the hands of more men than could be fed in the actual situation of the country.

Here our operations in this quarter ended. The metal was probably within our reach; but, if we had found it, the expense of carrying it to Montreal must have exceeded its marketable value. It was never

for the exportation of copper that our expedition was formed; but always with a view to the silver which it was hoped the ores, whether of copper or lead, might in sufficient quantity contain. The copper ores of Lake Superior can never be profitably sought for but for local consumption. The country must be cultivated and peopled, before they can deserve notice. The neighboring lands are good. I distributed seed-maize among the Indians here, which they planted accordingly. They did the same the following year, and in both instances had good crops. Whether or not they continued the practice, I cannot say. There might be much danger of their losing the seed; for their way was, to eat the maize green and save only a small quantity for sowing.

In the following month of August, we launched our sloop, and carried the miners to the vein of ore on the north side of the lake. Little was done during the winter, but, by dint of labor, performed between the commencement of the spring of 1773, and the ensuing month of September, they penetrated thirty feet into the solid rock. The rock was blasted with great difficulty, and the vein, which, at the beginning, was of the breadth of four feet, had in the progress contracted into four inches. Under these circumstances we desisted, and carried the miners back to the Sault. What copper-ore we had collected we sent to England; but, the next season, we were informed that the partners there declined entering into farther expenses. In the interim, we had carried the miners along the north shore, as far as the river Pic, making, however, no discovery of importance. This year, therefore, 1774, Mr. Baxter disposed of the sloop, and other effects of the company and paid its debts.

The partners in England were His Royal Highness the Duke of Gloucester, Mr. Secretary Townshend, Sir Samuel Tutchet, Baronet; Mr. Baxter, counsel of the Empress of Russia; and Mr. Cruickshank; in America, Sir William John, Baronet; Mr. Bostwick, Mr. Baxter and myself. A charter had been petitioned for, and obtained; but, owing to our ill success, it was never taken from the seal office."



The failure of this enterprise is ascribed by the best authorities not to any mismanagement, but to the extreme difficulties of forwarding supplies, especially provisions, to the miners. But that the project was born out of due time would at all events have been soon demonstrated by what Carver calls "the distracted situation of affairs"—meaning the outbreak of the Revolutionary war. No doubt the sloop fell into the hands of fur traders.

#### RIVAL FUR COMPANIES.

When the military possession of the Northwest passed from France to Great Britain in 1760, the Hudson Bay Company, which had been chartered by Parliament as early as 1670, acquired an almost exclusive monopoly of the fur trade. Its success excited the envy of other capitalists, and in 1783 the Northwest Fur Company was organized at Quebec, and established its posts at various points on the upper lakes and throughout the interior. The new company, contrary to the custom of the older one, employed voyageurs for its extended trade, and soon diminished the profits of the Hudson Bay Company. Other organizations were formed, among them an association of British merchants called the Mackinaw Company, which became a successful rival to the older companies.

An interesting account of the fur trade under the English regime was written in 1801 by Alexander Mackenzie, who in 1789 and in 1793 made voyages from Montreal through the continent of North America "to the frozen and Pacific oceans." The fur trade from the earliest settlement of Canada, he says, was considered of the first importance to that colony. But the *courcurs de Bois*, or early fur peddlers, by their degenerate life so brought Christianity into disrepute that on the complaint of the missionaries trading with the Indians without a license was forbidden. These licenses, at first bestowed upon officers, gradually extended to others, and the proposed reformation of conduct was only temporary.

The English fur trade began properly from Michilimackinac in 1766, and soon ex-

tended far up into the northwest, into territory into which the French had already penetrated. The rivalry was bitter, and the dissensions destroyed mercantile success for a number of years. In 1783-84 the merchants of Canada formed the Northwest Company, divided into sixteen shares, afterwards greatly increased. In 1788 its business amounted to \$200,000; in 1799, \$600,000. The produce during the latter year consisted of the following fur and peltries: 106,000 beaver skins; 2,100 bear skins; 1,500 fox skins; 4,000 kitt fox skins; 4,600 otter skins; 17,000 musquash skins; 32,000 marten skins; 1,800 mink skins; 6,000 lynx skins; 600 wolverine skins; 1650 fisher skins; 100 raccoon skins; 3,800 wolf skins; 700 elk skins; 750 deer skins; 1,200 deer skins, dressed; 500 buffalo robes and a quantity of castoreum.

The company employed fifty clerks, seventy-one interpreters and clerks, 1,120 canoe men and thirty-five guides. The canoe men were of two descriptions, foremen and steersmen, and middlemen. The first two were allowed annually 1,200 and the latter 400 livres each. The first class of people were hired at Montreal five months before they set out, and received their equipments and one-third of their wages in advance. The journey was commenced with eight or ten men in each canoe, and their baggage; and 65 packages of goods, 600 weight of biscuit, 200 weight of pork, three bushels of peas, for the men's provisions, two oil cloths to cover the goods, a sail, etc., an axe, a towing line, a kettle and a sponge to bail out the water, with a quantity of gum, bark and watope to repair the vessel. "An European," says Mr. Mackenzie, "on seeing one of these slender vessels thus laden, heaped up and sunk with her gunwale within six inches of the water; would think his fate inevitable in such a boat, when he reflected on the nature of her voyage; but the Canadians are so expert that few accidents happen."

The route from Montreal was usually by way of Lake Nipissing, but the Northwest Company in 1799 had two vessels upon Lakes Erie and Huron, and one on Lake Superior of from 50 to 70 tons bur-

den. The fleets of canoes which thus reached the St. Mary's river were placed in charge of half the crews, and the others were sent to Michilimackinac for additional canoes. The usual voyage from the Sault was up the north shores of Lake Superior to Grand Portage, whence the traders continued far up into the interior of what is now British North America.

Narrating the gossip at the North West House, Sault Ste. Marie, December 28, 1822, Schoolcraft relates the following: "Conversation turned, as might have been expected, upon the topic of the fur trade, and the enterprising men who established, or led to the establishment of the Northwest Company. Todd, Mackenzie and M'Gillvray were respectively described. Todd was a merchant of Montreal, an Irishman by birth, who possessed enterprise, courage, address and general information. He paved the way for the establishment of the company, and was one of the first partners, but died untimely. He possessed great powers of memory. His cousin, Don Andrew Todd, had the monopoly of the fur trade of Louisiana; M'Gillvray possessed equal capacity for the trade with Todd, united in enjoying gentlemanly manners. He introduced that feature in the company which makes every clerk, at a certain time, a partner. This first enabled them to successfully combat the Hudson Bay Company. His passions, however, carried him too far, and he was sometimes unjust. Sir Alexander Mackenzie was at variance with M'Gillvray, and they never spoke in each other's praise. Mackenzie commanded great respect from all classes, and possessed a dignity of manners and firmness of purpose, which fitted him for great undertakings. He established the X. Y. Company in opposition to the Northwest."

#### EARLY VESSELS ON LAKE SUPERIOR.

In 1789, the Hudson Bay Company owned a vessel on Lake Superior called the *Speedwell*, and others on Lake Ontario.

When the Northwest Fur Company was organized in 1783, one of their first endeavors was to secure a decked vessel on the chief lake. With this view, in 1784, they

petitioned the military governor of Canada for permission to build a vessel at Detroit, to be sent early in the spring to the Sault for the purpose of getting her up the falls and to be employed on Lake Superior. Their petition was promptly granted and a schooner named the *Beaver* was constructed. Her dimensions were: Keel, thirty-four feet, beam thirteen, and hold four feet; cost £1,843, 13 s., 2 d. She arrived at the foot of the Soo in May, 1785. For some unexplained reason, however, it proved impossible to bring her then over the portage.

It is supposed that the *Beaver* was either taken over another season or that some similar craft was constructed on Lake Superior. The headquarters of the Northwest Company were established about thirty miles west of Port Arthur. The spot was called Grand Portage because by a land-carriage of nine miles from that point goods reached navigable water on Pigeon river. Through this stream, and others interlocking, they could be transported in canoes to many posts, intercepting Indian trade, which had before gone to Hudson Bay.

Harmon, a Vermont boy, who had enlisted in the fur company's service, and had made his way to the Sault in thirty-three days from Montreal in May, 1800, describes the company's vessel. At Pine Point he inspected the Lake Superior craft, and was informed by the captain that she would carry as many as ninety-five tons, and that she made four or five trips to Grand Portage every season. A sawmill at the Sault was preparing lumber for her to transport, and a canal had been cut on the Canadian side so that loaded canoes might need no portage for conveying their freight to the vessel. In 1798 the Northwest Company had had a British garrison for a decade at Grand Portage; they had in their pay 1,205 employees; and as no crops were raised at their posts they were forced to carry food as well as other supplies over the lake. The *Speedwell* was afloat here in 1789, and flying the flag of their most formidable competitor, the Hudson Bay Company.

The rivalry of the competing fur corporations was fierce. It could not have been long after the Hudson Bay men hoisted

their banner on the *Speedwell* before a rival vessel had been constructed for the North-westers.

Fur trading was also conducted during the English period on the other lakes. During the latter part of the eighteenth century the fur trade was actively carried on on the Cuyahoga, one of the traders engaged therein being Joseph Du Shattar, who was for many years in the employ of the North-western Fur Company. After his marriage with Mary Pornay, of Detroit, he had a post of his own on the Cuyahoga river, nine miles above its mouth.

In 1786 a Pittsburg firm named Duncan & Wilson, made a contract with Caldwell & Elliott, of Detroit, to deliver at their agency, at the mouth of the Cuyahoga river, a quantity of flour and dried meats, which was carried on the backs of ninety pack horses over that distance, the expedition being in charge of thirty men. This train forded the river Cuyahoga at Tinker's creek, and passed down the west side by a small log cabin which, according to Col. James Hillman, of Youngstown, had then lately been abandoned by a trader named Maginnis. Upon reaching the mouth of the Cuyahoga river they were met by an Englishman named Howder, who came forward to meet them and receive the goods. No one else was then anywhere to be found in this vicinity. A cabin was erected at a spring which emerged from the roots of a tree standing on the east side of the river by an Indian trail, near the present foot of Superior street, Cleveland. At that time some of the freight for Detroit went forward by land, and some by the vessel Mackinaw.

#### SHIP BUILDING PROSPECTS.

During the interval between 1774 and the Revolutionary war a few vessels appeared on the Great Lakes. The fur trade expanded and the English dominion, and the little fleet of sailing vessels was used mainly in the fur trade, in carrying stores to the military posts, and as ships of war.

After the conquest of Canada, all the French vessels, that had not been sunk, were surrendered to the English. Two

were destroyed in the small bay on the west side of Carlton's island in the St. Lawrence river, where their remains were visible until recently. While no regular sailing vessels were put on Lake Erie by the French, after the loss of the *Griffin*, yet many of their bateaux, particularly those built between 1750 and 1760, were of large size, capable of transporting troops, and they are sometimes spoken of as vessels in history.

The two small vessels, *Beaver* and *Gladwyn*, which proved so valuable to the besieged garrison at Detroit in 1763, are supposed to have been built by the English the year previous. It is related that through the refusal of her captain to take ballast aboard, the *Gladwyn* was caught in a squall on Lake Erie, and the entire crew lost.

Carver relates that in June, 1768, he left Michilimackinac in the *Gladwyn*, a schooner of about 80 tons burden, and returned over Lake Huron to Lake St. Clair, where he left the ship and proceeded by boat to Detroit.

The sloop *Beaver* was lost at Cat Fish creek, fourteen miles up Lake Erie. This vessel, in company with the *Gladwyn*, which was built in 1763, at the military post of Fort Erie, left Detroit August 13, 1763, to procure troops and supplies for the fort, then besieged by Pontiac, arriving at Fort Erie on the 22d of the same month. The *Beaver* was wrecked August 28, with the loss of all her guns and also all of her cargo, except 185 barrels of provisions which were taken by the *Gladwyn* to Detroit, where she arrived September 3 with a cargo of 160 barrels of pork, and 47 barrels of flour, which had come to Fort Erie from New York by way of Oswego and Niagara, being carried round the Falls by Stedman.

In 1764 three new boats appeared on the lakes—the *Victory*, the *Boston* and the *Royal Charlotte*. This year the *Gladwyn* made one trip to Mackinac, and the other three each made four trips between Fort Erie and Detroit, delivering at Fort Erie 1,464 bales of furs. In 1767 the *Brunswick* made her appearance on the lakes, and in 1769 the *Enterprise* was built at Detroit, by Phyn & Ellice, of Schenectady, and Sterling & Portens, of Detroit. In May,



1770, the *Charity*, of 70 tons, was launched at Niagara, and was for some years employed on Lake Ontario in conveying stores to Edward Pollard, sutler at Niagara, and flour for the use of the garrison at that point. In 1772 this vessel did not earn enough to pay her crew. In 1771, an addition was made to the vessels afloat by the appearance of the *Chippewa* and *Lady Charlotte*, and the *Beaver* (2nd), the latter being a new vessel belonging to Commodore Grant. In May of that year she was lost near Sandusky with her cargo, valued at \$3,000, and her entire crew of seventeen men. The sloop *Betsey* was built a little earlier than this year, for it is said of her that in, 1772 she had been on the lakes three seasons. There was one other vessel afloat at this time, named the *Muskunungee*.

In 1778 the British brig-of-war *General Gage* arrived at Detroit, after a four-days' passage from Buffalo. At that time, on account of the Revolutionary war, it is said that only government vessels were allowed on the lakes.

From 1771 to 1779 nine vessels were built at Detroit by the English government. They were as follows: Schooner *Hope*, 81 tons, built in 1771; sloop *Angelica*, 66 tons, built in 1771; brig *Gage*, 154 tons, built in 1772; schooner *Dunmore*, 106 tons, built in 1772; sloop *Felicity*, 55 tons, built in 1774; schooner *Faith*, 61 tons, built in 1774; sloop *Adventure*, 34 tons, built in 1776; sloop *Wyandotte*, 47 tons, built in 1779. During the Revolutionary war the *Gage* carried 14 guns, and the *Faith*, 10 guns.

During the Revolutionary war the English government built several vessels on Lake Ontario, one of the largest of which appears to have been the *Ontario*, built to carry 22 guns. This vessel was lost in a fearful gale on the lake about the year 1780, while proceeding from Niagara to Oswego with a detachment of the 8th King's Own Regiment, commanded by Colonel Burton, the commander and all his men, no less than 172 persons in all, being lost in the storm. In 1788 a survey of all the lakes and harbors from Kingston to Mackinac was made by the deputy surveyor-general,

J. Collins, under instructions from Lord Dorchester. Mr. Collins in his report expressing his views as to the kind of vessels that should be built for service on the lakes. These views would hardly be accepted in full at the present day. He thought that for Lake Ontario, vessels should be from 80 to 100 tons burden, and on Lake Erie and Lake Huron they should be of about 15 tons if they were intended to communicate between these two lakes. But at the same time he thought they should be built upon the proper principles for burden as well as sailing.

In 1793 Captain Bouchette had entire command of the naval forces on Lake Ontario, and it was his son, Joseph, that made the first survey of the harbor of Toronto in 1793. It was in May of this year that Lieut.-Governor Simcoe, accompanied by several military gentlemen, set out from Newark in boats for Toronto. In the evening of May 3, His Majesty's vessels, the *Caldwell* and *Buffalo*, sailed from Newark for the same destination. Returning, the lieutenant-governor and his party reached Navy Hall, at Newark, on May 13.

There was then on the lake a vessel named the *Onondaga*, an armed schooner belonging to the British, also the *Lady Dorchester* and the *Mohawk*. It was upon the *Mohawk* that the Duke of Kent, father of Queen Victoria, was conveyed from Kingston to Niagara, the *Mohawk* being in command of Captain Bouchette. The Duke's party started in this journey up Lake Ontario from Ogdensburg, then called Oswegatchen, and stopped at Kingston and Toronto, on their way to Navy Hall, at Newark, then the residence of his Excellency Sir John Graves Simcoe.

It was in this year that the merchantman, named the *York*, constructed at York in 1792, first appeared on Lake Ontario, and there was also a vessel named the *Missisaga*, which aided in carrying the Queen's Rangers from Queenston to York in the latter part of July, 1793. In 1795 there was a quick-sailing vessel on Lake Ontario named the *Sophia*, which in May of that year accomplished the trip from Kingston to Niagara in eighteen hours.

*During the Revolutionary War* the Great Lakes remained in the possession of Great Britain. The importance of Detroit was appreciated by the American statesmen, and several expeditions to attempt its capture were proposed. Washington wished its capitulation. In January, 1779, when an expedition under General McIntosh was under consideration, he inquired of Colonel Broadhead the best time to make the attack, and suggested the winter, inasmuch as the British could not then use their naval force on Lake Erie. No attempt, however, was made. Governor Hamilton, in command at Detroit, made several expeditions against Colonial interests, and in one of them, against George Rogers Clark at Vincennes, was captured with his whole command. Hamilton was sent to Virginia, a prisoner of war.

The French habitants throughout the lake region were lukewarm in their adherence to Great Britain during the struggle, but the Indians were easily aroused against the American cause.

#### SPANISH FLAG ON LAKE MICHIGAN WATERS.

One event of interest during the Revolutionary war was the capture of the English fort at St. Joseph. While the American colonies were struggling for their independence Spain made an attack in the rear, from the lower Mississippi Valley, which it then controlled. A military expedition was sent from St. Louis across the States of Illinois and Indiana to St. Joseph, Mich., a small post then held by British soldiers. The post quickly capitulated, and the flag of Castile waved unquestioned for a few days in the wilds of Michigan. By that act the prairies of Illinois became Spanish possessions, and the command of Lake Michigan fell from British hands to the mercies of the Dons.

This interesting event occurred early in the year 1781. It had by that time become apparent to the powers of Europe that the American colonies would achieve their independence, and the very important question arose what territory should be transferred to the new nation born on the wild western continent. France was still smart-

ing under the loss of Canada, and of the Great Lakes eighteen years earlier. Spain was yet an aggressive explorer, and both nations indulged hopes of territorial gain when the terms of the American treaty would be arranged.

It was, doubtless, with this aim in view that the little Spanish post at the confluence of the Mississippi and Missouri rivers received instructions from the King of Spain to acquire some color of title to the fertile lands and the great inland waters lying west of the Alleghany Mountains. These instructions must have been urgent, for they were carried out in the dead of winter and in the face of great difficulties.

The expedition, which left St. Louis January 2, 1781, consisted of sixty-five militia and sixty Indians. Of the militia thirty were Spaniards and thirty-five were probably French traders, whose sympathies and interests were then with Spain rather than with England. The Indians, according to Spanish authorities, were of the nations "Otaguis, Sotu and Putuami." In the last named may be easily recognized the Pottawatomies, whose children it was, perhaps, who massacred the American soldiers and settlers at Fort Dearborn thirty-one years later.

Don Eugenio Purre had charge of the expedition. Don Carlos Tayon was second in command, and with them was Don Luis Chevalier, "a man well versed in the language of the Indians." This Chevalier was, doubtless, the Louis Chevelier, a French trader who narrowly escaped death when the savages, during Pontiac's war in 1763, captured the English post at St. Joseph and massacred eleven of its fourteen occupants. He was versed not only in the language of the Indians, but in their weaknesses, and was a master of diplomacy in negotiations with the unlettered tribes. His services were especially valuable, for the incursion to the lake country was to be made through the hunting grounds of Indians friendly to the English. Their neutrality must be purchased, for upon that neutrality hinged the success of the expedition. An inkling of the lavish hand with which this nonintervention was to be purchased is presented in

the Spanish official account of the journey. Each of the militiamen was "obliged to carry provisions for his own subsistence, and various merchandises which were necessary to content, in case of need, the barbarous nations through whom they were obliged to cross. The commander, by seasonable negotiations and precautions, prevented a considerable body of Indians, who were at the devotion of the English, from opposing this expedition." Not only was there a liberal distribution of gifts among the Indians, but a share of the goods to the captured at the fort was promised in the event of success. "Two great chiefs, Eluturno and Naquigen," were also members of the expedition.

"The distance from St. Louis to St. Joseph was 220 leagues." The weather was severe and the party suffered "the greatest inconvenience from cold and hunger." It is a matter of some surprise that authorities do not agree upon the site of St. Joseph. La Salle, in 1679, had established a post at the mouth of St. Joseph river, and this location for Fort St. Joseph is given by Parkman, by Dillon's history of Indiana, 1843 edition, and by other historians. Charlevoix, who visited the post in 1721, places it about thirty miles up the river, near the present city of Niles, Mich. English and French maps also give the interior location. But whichever site was correct, it commanded lake Michigan for the puny craft that then sailed its stormy waters.

The fort fell without resistance. There were only a few English soldiers present. They were perhaps surprised, through the golden sealing of savage lips, until it was too late to receive re-enforcements from Detroit. True to their promises—for there was a return journey to be made—the spoils of the fort were divided among the Indians who accompanied the expedition, and those through whose lands the Spaniards had marched. Commandant Purre unfurled the Spanish flag above the fort. It was the first and last time the gold and crimson banner waved in the region of the Great Lakes. And the time was brief, too. Fearing an attack from Detroit, Don Purre, after a few days' rest, destroyed all stores that had not

been taken by his Indian allies, and began the return trip. It is conjectured that he took the same route by which he had advanced, crossing the portage from the St. Joseph to the Kankakee perhaps at or near South Bend, Ind., and retreating in a southwesterly course across the State of Illinois. He took with him the British flag which he had captured at St. Joseph, and presented it with fitting ceremonies to Don Francisco Cruvat, Spanish governor at St. Louis.

Franklin and his confreres representing the American colonies at the peace deliberations then progressing at Paris proved equal to the situation. Spain and France were actively seeking to pen up the American colonies along the Atlantic seaboard, and to that end sought the co-operation of Great Britain. But the latter country judged that her claim upon the western domain between the Alleghanies and the Mississippi river would be better ceded to the colonies than left to the machinations of her European rivals, and quietly negotiated the basis for a treaty with the United States by which center lines through the Great Lakes and through the Mississippi river were made the respective northern and western boundaries of the new nation. And thus the shadow of Spain was by shrewd diplomacy removed from the prairies of Illinois and from the mastery of Lake Michigan.

#### ARRANGING THE BOUNDARY LINE.

One of the most important questions to be settled at the treaty of peace between Great Britain and the United States, negotiated at Paris in 1782, was the boundary lines of the liberated colonies on the north and west. The importance, so far as it relates to the Great Lakes, was almost infinitely less appreciated then than it would be now. Questions like the fisheries at Newfoundland received greater consideration.

Various lines of boundary had been proposed. Congress, in 1779, in its instructions to John Adams, then on a mission to England to negotiate a treaty of peace, insisted upon a line passing from the St. Lawrence to the mouth of Lake Nipissing.



and thence in a straight line to the source of the Mississippi. This would have given the United States the whole of Lakes Ontario, Erie, Huron, Michigan and a portion of the southern shores of Lake Superior. Adams' mission was unsuccessful, but when in 1782 negotiations were opened, the same boundary was proposed by Franklin, Adams and Jay, the American commissioners.

Mr. Oswald, who represented Great Britain, was disposed at first to concede this boundary; but complications arose. The settlement of the boundaries became a European question. France and Spain at their own election became parties to the proceedings. Spain during the Revolutionary war had extended her Gulf of Mexico and Mississippi river possessions, by capturing several British outposts on its upper waters. She laid claim to the whole Mississippi river system. France aided her, and was desirous, for reasons best known to herself, to confine the western boundary of the United States to the Alleghany Mountains. Perhaps she had hopes of regaining from England the province of Canada, lost less than twenty years before. France had lent her valuable aid to the struggling colonies, not because she loved them, but because she hated England. By the treaty, negotiated in 1778 between France and the colonies, it was stipulated that neither should make peace with Great Britain except with the consent of the other. France was, therefore, in a position to closely follow, and in a measure influence the negotiations pending between the United States and Great Britain.

Franklin suggested that Great Britain cede to the United States the whole of Canada. The proposition was at first not received with disfavor by Mr. Oswald, and he communicated it to the British ministers; but this proposition was not strenuously urged. Count de Aranda, the Spanish ambassador at the French court, had been empowered to arrange a treaty with the United States; but his boundary lines, excluding the United States from territory west of Erie, Penn., and south of the chain of lakes, prevented for years a treaty of peace with that country. France supported Spain in its claims, and when negotiations

were broken off with Spain turned attention to the English treaty, and sought to similarly influence Great Britain to limit the territory of the colonies.

When other questions had been settled, the American commissioners made to England two alternative propositions, respecting the northwest country. One fixed the boundary at the forty-fifth parallel of latitude from the St. Lawrence westward, giving to the United States all of Lakes Ontario and Erie, and the southern portions of Lakes Huron and Michigan, and to Great Britain all of Lake Superior and the upper portions of Lakes Huron and Michigan.

The other proposition was to make the boundary the middle of the chain of lakes, "through Lake Superior northward of the isles Royal and Philipeaux to the Long Lake." Either of these two lines was more favorable to Great Britain than that originally proposed via Lake Nipissing, and the alternative was offered as a recompense for conceding the Mississippi as the western boundaries of the colonies. Thus all British claims to the western country would be extinguished. Fortunately, perhaps, for both countries, the British ministers chose the line through the lakes. It gave Canada a water frontage on the four lakes, and perhaps Great Britain may have dreamed of regaining possession of the United States, and considered the western country more likely to be hers if left in possession of the colonies than if practically surrendered to Spain. But so certain was this western and northern boundary to receive strong opposition from France, and perchance delay the signing of the treaties, that the provisions were incorporated into a secret article, and were not communicated to France until after the treaties had been signed. "The game for despoiling the young Republic of one-half her territorial heritage was effectually blocked," says Mr. Hinsdale in the "Old Northwest." "Vergennes (the French commissioner) bitterly reproached Franklin for the course that he and his associates had followed, and Franklin replied, making such defense as he could, admitting no more than that a point of

*bienséance* had been neglected. The American Congress and the Secretary for Foreign Affairs at first were also disposed to blame the commissioners; but so anxious was the country for peace, and so much more favorable were the terms obtained than had been expected that murmurs of dissatisfaction soon gave place to acclaims of gratification and delight. The preamble of the treaty contained the saving clause that it should not go into effect until France and England came to an understanding, a fact the astute Franklin did not fail to press upon the attention of the irate Vergennes. However, that condition was soon fulfilled and general peace assured."

The Treaty of Paris was signed September 3, 1783. That portion of the secret article, defining the boundaries between the United States and Canada, which related to the Great Lakes, was as follows: By a line due west on the forty-fifth degree of north latitude "until it strikes the Iroquois or Cataraquy (the St. Lawrence) river; thence along the middle of said river into Lake Ontario, through the middle of said lake until it strikes the communication by water between that lake and Lake Erie; thence along the middle of said communication into Lake Erie; through the middle of said lake until it arrives at the water communication between that lake and Lake Huron; thence along the middle of said water communication into Lake Huron; thence through the middle of said lake to the water communication between that lake and Lake Superior; thence through Lake Superior northward of the Isles Royal and Philipeaux to the Long Lake; thence through the middle of said Long Lake and the water communication between it and the Lake of the Woods to the said Lake of the Woods."

By this treaty Great Britain acknowledged the United States to be free, sovereign and independent states, and the Crown relinquished for himself, his heirs and successors "all claims to the government, propriety and territorial right of the same and every part thereof."

The island Philipeaux, referred to in this treaty, did not exist. It appeared erroneously on many of the old maps at that

time, and from those maps the name was doubtless taken.

#### GREAT BRITAIN RETAINS POSSESSION.

In July, 1783, Washington sent Baron Steuben to Canada with a commission to receive from the British commander, General Holdiman, possession of Oswego, Niagara, Detroit, Mackinaw and other minor fortified posts. Holdiman replied that he had received no instructions to surrender these posts, and that he could not even discuss the question with his visitor.

"The refusal of England to surrender so much of the northwest as remained in her hands at the close of the war," says Hinsdale in "The Old Northwest," "is a very striking proof of the reluctance with which she consented to the northwestern boundaries." When Baron Steuben went to Canada to receive this surrender, "there was no reason for retaining the posts consistent with national good faith; afterward the British government alleged as a reason the non-fulfillment by this country of certain stipulations of the treaty of peace. For thirteen years the northwestern posts were sharp thorns in the sides of the United States. No doubt England had some reason to complain of the United States for the imperfect fulfillment of the treaty of 1783; but her retention of the posts, so calamitous in results to the growing western settlements, was largely due to the lingering hope that the young republic would prove a failure, and to a determination to share in the expected spoil. The fact is, neither England nor Spain regarded the Treaty of Paris as finally settling the destiny of the country west of the Mountains."

*Other American Writers take the Opposite View.*—"It is not to be understood," said George T. Clark, of Oswego, "that Great Britain willfully continued her possession of the posts. In November, 1792, Jefferson, then Secretary of State, formally opened the subject of the violation of the seventh article of the treaty by the retention of the posts, with Hammond, the English envoy to this country. The explanation came quickly that the King, his mas-

ter, had suspended that article because of the failure of Congress to prevent the hindrance of British creditors in collecting their debts, and because estates confiscated from the Tories had not been restored. The charge was true. Massachusetts, New York, Pennsylvania, Virginia and South Carolina had everyone enacted statutes blocking the machinery of the law against English creditors. To the other charge of failure to restore the confiscated Tory estates, Jefferson replied that the only engagement had been to recommend a restoration of the estates, not to restore them. The claim was made at the time that English handlers of the profitable fur trade influenced the British ministry to delay a settlement whilst they were enjoying what was naturally the business of Americans. It was also charged that the well-known feebleness of the infant nation to enforce reprisals contented England with the situation in which things were. Still another cause assigned was the purpose of the British to compel the alliance of the Indians through the threat implied in the possession of the frontier posts."

The relations between the United States and Great Britain were strained during the years following 1783. The British government retained armed possession of territory south of the boundary line on the shores of the lakes until 1796, maintaining forts and garrisons at Oswego, Lewiston, Schlosser, Fort Miami on the Maumee river ten miles south of Toledo, and at Detroit. The use of the Great Lakes was thus entirely prohibited to the United States and its people. To make an approach to the Niagara river as disagreeable and unsafe as possible, Indians, who were then under the influence of the British government, were instructed that if they found any strange men traveling over the country to treat them as deserters from the British army, to arrest them and bring them into the fort, unless they could show the commander's pass, a large wax impression on a card, which was distributed among the Indians.

The Republicans in Congress April 21, 1794, moved to suspend all commercial intercourse with Great Britain until the fron-

tier posts were given up. Washington resisted the popular clamor, and thus wrote to the Senate: "As peace ought to be preserved with unremitted zeal before the last recourse, which has so often been the scourge of nations, and cannot fail to check the advancing prosperity of the United States, is contemplated, I have thought proper to nominate, and I do hereby nominate John Jay as envoy extraordinary of the United States to his Britannic majesty." Jay knew the unpopularity of his mission, but accepted the personal sacrifice for the good of the country. He sailed May 12, 1794. Affairs were rapidly approaching war, but the celebrated Jay's Treaty, signed at London November 19, 1794, averted a catastrophe. By its terms the United States undertook to compensate British creditors. British troops were to withdraw from all territories in the United States on June 1, 1796.

When this treaty reached Congress for ratification a bitter and protracted discussion followed. Maritime affairs on the high seas and other coast matters formed the chief subjects for animated debate, but the Great Lakes were not entirely neglected. The treaty was finally ratified by a very close vote.

*Posts Surrendered.*—Two years later, in 1796, the stipulations of the treaty were fully acted upon, and on the 4th of July, 1796, the British troops were withdrawn from Fort Niagara, Lewiston and Schlosser, and it was just a week later that Capt. Moses Porter, with sixty-five men from Fort Miami, took possession of Detroit. Fort Mackinaw was surrendered a little later.

In 1796, when Detroit was surrendered, twelve merchant vessels were owned in that city, also several sloops, brigs and schooners of from 50 to 100 tons each.

On the surrender of Fort Mackinac to the Americans, the British repaired to the island of St. Joseph, some twenty miles above Detour in the St. Mary's river. The fort which they here constructed was garrisoned, at the commencing of the war, by a small body of regulars under the command of Captain Roberts.

The islands in the Niagara river were



claimed and held by Great Britain until the making and signing of the Treaty of Ghent in December, 1814, by which it was provided that a survey of the whole boundary line from the eastern end thereof to the northwestern corner of the Lake of the Woods should be made, and as it was determined that through the Niagara river the boundary should follow the deepest channel,

most of the islands therein fell on the American side.

The line from St. Lawrence to the foot of St. Mary's river was established in 1823 by joint commission under the Treaty of Ghent; the line from the foot of the St. Mary's to the northwesternmost point of the Lake of the Woods, by the Webster-Ashburton Treaty in 1842.

## CHAPTER X.

### BEGINNINGS OF LAKE COMMERCE.

ROUTES OF WESTERN IMMIGRATION—LAKES NEGLECTED—FIRST AMERICAN BOAT ON LAKE ONTARIO—EARLY COMMERCE ON LAKE ONTARIO—PIONEER AMERICAN VESSELS—SHIPBUILDING IN CANADA—STEAMERS ON THE ST. LAWRENCE—THE PORTAGE AT NIAGARA—SHORES OF LAKE ERIE SETTLED—SETTLEMENT OF NORTHERN OHIO—AMERICAN VESSELS PRIOR TO 1812—FORT DEARBORN ESTABLISHED—EARLY VESSELS ON LAKE SUPERIOR—COMMERCE ON LAKE ERIE—FUR TRADE—AMERICAN FUR COMPANY.

THE permanent settlement of the region of the Great Lakes was of a slower growth than that of the Ohio and Mississippi Valleys. One cause for this was the close relation between the lakes and the St. Lawrence political system, or Canada, and, until in 1796 Great Britain surrendered the posts commanding the lake trade, the American tide of emigration, which was moving over the Mountains, took a more southerly course.

General Walker, the superintendent of the tenth United States census, has shown that the early emigration from the Atlantic states westward was along four main lines, as follows: (1) Through central New York, following the valley of the Mohawk river; (2) across southern Pennsylvania, western Maryland and northern Virginia, parallel to and along the course of the Upper Potomac; (3) southward down the valley of Virginia, and through the mountain-gaps into Tennessee and Kentucky; (4) around the southern end of the Mountains, through Georgia and Alabama.

Prior to 1796 the last three were the

channels almost exclusively. In that year no road had yet been cut through the wilderness of western New York to Lake Erie. Lake Ontario, the Niagara portage and Detroit were in possession of the English. Roads had been cut through to the Ohio Valley both from Philadelphia and from Virginia, and these were the routes traversed even by New England emigrants to the wilderness beyond the Mountains. The tide of emigration having started that way, it was some time before it was diverted to the lakes. Later the lakes became the chief channel of western emigration, the other routes dwindling to comparative insignificance.

American emigration, however, was rapidly pushing westward towards the Great Lakes, while the English still held the fortified posts commanding them. This advancing wave of permanent settlement from the eastern interior had not yet dashed itself upon the shores of the lakes before the English surrendered possession in 1796. While still holding these posts the English prevented the few daring Americans who

reached Lake Ontario from engaging in marine trade. At least one American circumvented the garrison at Oswego.

*First American Boat on Lake Ontario.*—James L. Barton in a lecture delivered some fifty years ago to the Young Men's Association, of Buffalo, gave an account of this enterprise, which produced the first American boat that ever floated on the waters of the Great Lakes. Mr. Barton said:

"In 1789, John Fellows, of Sheffield, Mass., started from Schenectady with a boat, its cargo mostly tea and tobacco, with a design of going to Canada to trade. On reaching Oswego, the commanding officer refused him permission to pass that place. Fellows returned with his boat and cargo up the Oswego river to Seneca river, up that into the Canandaigua outlet, as far as where Clyde is; here he built a small log building (long known as the block-house) to secure his goods in, while he was engaged in bushing out a sled-road to Sodus bay, on Lake Ontario. He then went to Geneva, and got a yoke or two of cattle, hauled his boat and property across, and then in this frail conveyance embarked with his goods, and pushed across the lake. He met with a ready sale for his tea and tobacco, and did well. He crossed in the same boat, and landed at Irondequoit. The boat was afterwards purchased and used by Judge Porter in traveling the shore of Lake Ontario, when making the survey of the Phelps and Gorham purchase."

*Early Commerce on Lake Ontario.*—Soon after 1796 American commerce sprang up on Lake Ontario, and between that date and the opening of the war of 1812 it attained quite a respectable size. At the beginning of the century the trade of Lake Ontario exceeded that of the four upper lakes.

During all this time, and on up to 1806, communication between New York City and the Western country was kept up by small boats, propelled by poles up the Mohawk river, wagoned with their contents round Little Falls, and also between Mohawk and Wood creek, taken down this creek into Oneida lake, and through that

lake and river to Three River point, where the Oneida unites with Seneca river, and thence to Oswego on Lake Ontario, another portage having, however, to be passed at Oswego Falls. At Oswego this property or freight was loaded into vessels for Lewiston or Queenston, according to its destination. That destined for Lewiston or Schlosser was unloaded at Lewiston, while that destined for Detroit and other Western places was unloaded at Queenston and wagoned around the portage at Chippewa, where it was loaded into boats, carried to Fort Erie, whence it was distributed in vessels to the several places to which it was shipped.

By 1810 the commerce of Lake Ontario had so grown that it furnished regular employment to a considerable number of coasting vessels, which were employed in carrying the Indian annuities, stores for Western military posts, the goods and peltries of the fur company, provisions and supplies for straggling and struggling Western settlements, fish, lumber, staves and also Onondaga salt for the Pittsburg market, then one of the principal articles of lake commerce.

*Pioneer American Vessels.*—Charles H. Keep, in his "Internal Commerce of the Great Lakes," says that the first American vessel placed on any of the Great Lakes after the Revolution was built at Hanford's Landing, three miles below Rochester, N. Y., in 1798. She was built by Eli Granger, was named the *Jemima*, and on July 22, that year, she was sold to Augustus and Peter B. Porter.

The schooner *Charles and Ann*, built at Oswego, N. Y., in 1810, attracted considerable attention on account of her size. The following vessels were also engaged in commerce on this lake previous to the war of 1812: *Geneva Packet*, Capt. Obed Mayo; *Diana*, Capt. A. Montgomery; *Fair American*, Capt. Augustus Ford; *Collector*, Capt. Samuel Dixon; *Experiment*, Capt. C. Holmes; and *Dolphin*, Capt. William Vaughan. The captain of the *Charles and Ann* was named Pease. The *Fair American* is said to have been the first vessel built under the Government of the United

States on Lake Ontario. She was launched at Oswego, and was built for the American Fur Company.

One of the very first vessels to sail on the waters of Lake Ontario was the Washington, a schooner built at or near Erie, Penn., in 1797. During that season she navigated Lake Erie, and the next year she was sold to a Canadian, and carried on wheels around Niagara Falls to Lake Ontario, and in 1798 she sailed from Queenston to Kingston as a British vessel under the name of the Lady Washington.

On Lake Ontario, prior to 1809, several vessels were engaged in commerce, and besides those already noted were the Island Packet, Lark, Eagle, Mary, Farmer, Two Brothers and Democrat; also the United States brig Oneida, commanded by Captain Woolsey. In 1809 the schooner Ontario was built at Lewiston for Porter, Barton & Co., and sold to the United States Government during the war of 1812. She was 70 tons burden. The same year the schooner Columbia was built on an island at the lower end of Lake Ontario, and brought in an unfinished state to Lewiston, where she was purchased and fitted out by Porter, Barton & Co. and her name changed to Niagara. In addition to the foregoing vessels were the sloops Marion and Gold Hunter in commission.

*Ship Building in Canada.*—Ship building was also active on the Canadian side of the waters. In 1797 the Governor Simcoe was built, or at least she was then sailing on the lake. She was constructed for the Northwest Company. In May of the same year there appeared on Lake Ontario a deck boat built and owned by Col. John Van Rensselaer, of Lanenburg, on the North river. Colonel Van Rensselaer also built another vessel of the same capacity, "fifty barrels burden," both of which vessels plied between Niagara and Oswego and Kingston. In August authority was given to build a gunboat for service on the harbor at York.

Toward the end of November, 1799, the York was wrecked on a rock off the Devil's Nose. The Genesee and the Peggy were schooners plying between Oswego and

Niagara, the Peggy being owned in part by Thomas Berry, of York. There was also a boat named the *Jemima*, owned in part by Abner Miles. At the close of the last century there were, on Lake Ontario, the schooners *Lady Dorchester*, Governor Simcoe and York. There was a sloop building at Kingston, and the *Polly* was building on the Bay of Quinte. The *Lady Dorchester* and the Governor Simcoe were the largest of the entire fleet, being each of 87 tons burden.

During the year 1800 the *Prince Edward* was built in the dock at Marysburg, a short distance west of the Stone mills, by Captain Murney, father of the late Hon. Edmond Murney, of Belleville. She ran upon Lake Ontario for many years, and was large enough to allow of the stowing underneath her deck of 700 barrels of flour. During the same year a schooner of 100 tons was brought to Clifton, and in the following winter she crossed by the portage on immense runners down to Queenston, where she was launched in the Niagara river. In 1804 this vessel was lost on Lake Ontario with all on board. On May 16, 1801, the *Toronto* reached York with the lieutenant-governor on board, and he opened Parliament on the 28th of the same month. The sloop *Mary Ann* and "Skinner's sloop" were then afloat.

On May 10, 1803, the Canadian Government schooner *Duke of Kent* arrived at Little York from Kingston, with a detachment of troops on board. The *Lady Washington*, which had been built at Four-Mile creek, near Erie, Penn., in 1797, and which came down on Lake Ontario after one year's service on Lake Erie, was lost in a gale of wind near Oswego on her passage from Niagara, on November 24, 1803.

The *Speedy*, Capt. O. Paxton, left York October 7, 1804, for Presqu' Isle. She was descried off that island on Monday following just before dark, and great preparations were made for her reception and that of her passengers; but the wind coming round from the northeast with such violence as rendered it impossible for her to enter the harbor, she shortly afterward disappeared. A large fire was built on shore to guide her



in case of necessity; but she was never seen afterward, and all on board were lost. Among her passengers were Justice Cochran; Robert J. D. Gray, solicitor-general; Angus McDonell, advocate; John Fisk, high constable at York, and George Cowan, an Indian interpreter. They were proceeding to the district of Newcastle to hold the circuit, and for the trial of an Indian, also on board, indicted for the murder of John Sharpe, formerly of the Queen's Rangers. Besides the above there were also others on board, to the number of about twenty-four, all of whom were lost.

During 1808 two vessels were built at Missisaga Point, at the mouth of the river Cataragui. They were the Elizabeth and the Governor Simcoe, the latter being built to take the place of a former vessel of the same name. The yacht Toronto was wrecked early in the summer of 1812 off the island opposite York, and for many years portions of her hull were to be seen on the beach.

*Steamers on the St. Lawrence.*—It was about this time that steamers appeared on the St. Lawrence. A steamer called the Dalhousie was built in 1809 at Prescott, and was chiefly employed on the St. Lawrence, and also during the same period the Accommodation, which arrived at Quebec from Montreal, about November 5 of that year. Neither of these boats, however, come strictly within the province of the history of the Great Lakes. The latter boat, it may be stated, was 70 feet long. She had an open, double-spoked, perpendicular side-wheel on each side, without any circular band or rim. To the end of each double spoke was fixed a board, which entered the water and by the rotary motion of the wheel acted like a paddle. A mast was fixed in her, and a sail to be used when the wind was favorable. She was thirty-six hours performing the trip between the above named points.

#### THE PORTAGE AT NIAGARA.

By a statute passed by Congress March 5, 1805, the "Buffaloe Creek District" was established, for the collection of customs. The State of New York owned a strip of

land one mile wide extending along Niagara river from Lake Ontario to Lake Erie, which was called the "Mile Strip." In 1803 and 1804 this strip was surveyed according to directions from the surveyor-general. A piece of land one mile square, where Fort Niagara was situated, was held for garrison purposes. The survey began one mile from Lake Ontario, and the mile strip was laid off into farm lands averaging from 160 to 175 acres to the plat. At Lewiston a village plat was reserved, one mile square. Here was the lower end of the portage round the Falls where the State owned a warehouse and dock. The upper end of the portage was on what was known as the Steadman farm, which had to be left intact, as also the two-mile square below, and adjoining Scajaquada creek, known as the Jones and Parrish tracts, on part of the latter of which North Buffalo was laid out and built. After crossing Scajaquada creek four more lots were surveyed, and then 100 acres higher up and adjoining, called the "Ferry lot." Then, with the exception of a triangular piece of land, the residue of the mile strip extending to the village of Buffalo, was surveyed into the village of Black Rock, afterward more generally known as Upper Black Rock.

In 1805 all the surveyed lands, farms and village lots were put up for sale at Albany, and the docks and warehouses at Lewiston, Schlosser, together with the Steadman farm, were offered for lease. At the time of the sale, Augustus and Peter B. Porter, Benjamin Barton and Joseph Annin, who surveyed the mile strip, attended, for the purpose of purchasing lands along the river and of bidding for the lease. They agreed to form a partnership under the firm name of Porter, Barton & Co., bid for the portage lease and to make a purchase of lands. They obtained the lease for thirteen years, and purchased the land around the Falls and other farms and village lots. Four farm lots, containing over 700 acres and lying on the south side of Scajaquada creek, were purchased by the four gentlemen above named and Rev. John McDonald, of Albany, and in 1811 they had these lots surveyed into a village plot

by Apollos Stephens, and called it Black Rock, or afterward Lower Black Rock, to distinguish it from the State village of the same name.

In 1806 Porter, Barton & Co. began the transportation business over the portage, boating up the river to Black Rock, and provided themselves with vessels to carry freight up the lakes. This was the beginning of the first regular and connected line of transportation on the American side that ever did business on the Great Lakes. The line was formed in this way. Mathew McNair was at Oswego, and Jonathan Walton & Co., at Schenectady. These two parties, together with Porter, Barton & Co., at Black Rock, formed a transportation line, and in forwarding freight this line of forwarders, the first that ever carried on such a business from tide water to Lake Erie, on the American side of the Niagara river, sent the property in boats up the Mohawk, down Wood creek and other waters to Oswego, from which point Mathew McNair carried it over Lake Ontario, and Porter, Barton & Co. took it from Lewiston to Black Rock and then sent it up the lakes. This latter firm built warehouses at Lewiston, Schlosser and Black Rock. They also sunk piers in the bay or eddy near Bird island, upon which piers they erected a warehouse at which vessels could receive and discharge freight. River boats were sometimes drawn up the Black Rock rapids to this warehouse by what was facetiously termed the "horn breeze," which consisted of from six to twelve yoke of oxen, kept by the company for the purpose. These oxen were attached to a hawser made fast at the other end to a mast of the vessel, and supported in the middle by small boats.

On the portage the company generally kept three yoke of oxen, the load from Lewiston to Schlosser being twelve barrels of salt, or its equivalent in merchandise. Only one trip a day could be made. The company gave employment to all teamsters that offered themselves, who often used horses, carrying seven barrels of salt when the roads were good. They received from two shillings to two shillings and six pence per barrel, and from 15,000 to 18,000 bar-

rels of salt were hauled up over the portage in a season. The charge on salt from Lewiston to Black Rock was seven shillings per barrel, and from Schlosser, three shillings. On freight the rate was six shillings per hundred weight from Lewiston to Black Rock, on down freight the rate being three shillings per hundred weight from Schlosser to Lewiston.

The Hon. Alvin Bronson arrived at Oswego in the spring of 1810, and in connection with his partners, Jacob Townsend and Sheldon Thompson, established a warehouse and forwarding business on the lakes. For two years before the war of 1812 and for two years afterward the firm of Townsend, Bronson & Co., in connection with Porter, Bronson & Co., conducted most of the transit business on the Great Lakes, comprising salt for the Pittsburg market, Indian annuities and military stores for frontier posts, the fur company's goods and peltries, and the merchandise and products of the lake region.

In 1812 a commission appointed by the State Legislature arrived at Oswego to explore a canal route between tide water and the Great Lakes, consisting of DeWitt Clinton, Thomas Eddy and Peter B. Porter. This project, delayed by the war of 1812, was resumed in 1817, and the overland route for the canal was adopted.

#### SHORES OF LAKE ERIE SETTLED.

*Settlement of Northern Ohio.*—Meanwhile emigration had extended westward along the shores of Lake Erie. The Connecticut Land Company, owners of the Western Reserve in Ohio, a tract of land about 120 miles in length, on the south shore of Lake Erie, in 1796 sent a surveying party of fifty persons to this tract. It assembled at Schenectady, and ascended the Mohawk to Fort Stanwix. The majority of the surveyors proceeded thence with boats and stores via the portage to Wood creek, thence down that stream, Oneida lake and Oswego river to Lake Ontario. The British garrison, holding Fort Oswego, caused them some inconvenience, one of the surveyors observing, "such are the effects of allowing the British government to exist on

the continent of America." A few of the party made their way by Canandaigua to Buffalo creek. From Buffalo the surveyors proceeded westward along the south shore of Lake Erie to the mouth of Conneaut creek, where they established headquarters. A little later Gen. Moses Cleaveland, the agent in charge of the party, continued westward to the mouth of Cuyahoga river, which he reached July 22, 1796. Here he surveyed the city, which has since borne his name. The survey was not completed for several years, and New England settlers soon after appeared on the shores of Lake Erie, traversing the same routes as those taken by the surveyors. In 1800, twenty or thirty settlements had been commenced, and the population was 1,302. In 1810 there were 16,092 inhabitants on the Reserve. The full tide of emigration did not begin until after the war of 1812.

#### AMERICAN VESSELS PRIOR TO 1812.

At the close of the last century there were on Lakes Huron, Erie and Michigan the following schooners: The Nancy, 94 tons, Swan and Neagel; the sloops, Sagima, Detroit, Beaver, Industry, Speedwell and Arabaska; on Lake Superior, the sloop Otter.

The little vessel of Capt. William Lee (name not known), propelled by sails and oars, was the only one on the south side of Lake Erie in 1795. Captain Lee had no crew, and made trips only when he could have "passengers enough able and willing to man his boat." He resided at Chippewa.

The first vessel on Lake Erie to float the "stars and stripes" was the schooner Swan, owned by James May. It was hired to convey troops to Detroit in 1796.

The sloop Detroit, of 50 tons, was bought from a merchant by General Wayne, at Detroit, in 1796. She carried the General to Erie a short time before his decease, and was wrecked the following autumn near Erie.

In 1796 the Erie Packet, built and owned at Fort Erie, sailed regularly to Presq' Isle (Erie), which was the chief place of trade on the south side of the lake, a road having been opened from thence to Le-

Boeuf (now Waterford) during the French war.

In 1797 the United States schooner Wilkinson, of 80 tons, was built at Detroit under direction of Captain Curry. She was sold in 1810, overhauled and renamed the Amelia. In 1812 she was repurchased by the government and formed part of Perry's squadron.

In 1798 the Weazel, a small sloop, was employed to convey immigrants along the lake shore.

In September, 1798, Eliphalet Beebe launched a sloop of 36 tons at the mouth of Four-mile creek (east of Erie), called the Washington. This was probably the first vessel built on the south side of the lake. It was built for the use of the Population Company, was sold in November, 1801, to Joshua Fairbanks, of Queenston, for land and salt, taken across the portage from Chippewa to Queenston, and lost on its first trip on Lake Ontario. In 1799 Capt. William Lee built the Good Intent, 30 tons, R. S. Reed part owner, at the mouth of Mill creek. She was lost at Port Abino in 1806 with all on board. In 1800 Eliphalet Beebe built the Harlequin, which was lost her first season, with all on board.

In 1802 the United States Government built two vessels at Detroit, viz.: The brig Adams, of 100 tons, sailed by Captain Brevoort, and the schooner Tracy, of 53 tons. The Tracy was stranded and lost on the reef off Fort Erie. The Adams continued in commission until the war of 1812, when she was surrendered by Hull to the British, at Detroit, and was called the Detroit. She was afterward recaptured at Fort Erie by Lieutenant Elliot, and stranded and burned on the outside of Squaw island, at Black Rock.

In 1802-3 Porter, Barton & Co., contractors for the army, built at Black Rock the sloop Contractor, of 64 tons. Sill. Thompson & Co., at the same place, built the Catharine. These were both purchased by government in 1812; the name of the former was changed to the Trippe, and the latter to the Somers. They participated in the battle of Lake Erie.

In 1803-4 a small sloop, called the



Niagara, was built at Cayuga creek on the Niagara river, by the United States Government, but was never commissioned. She was purchased by Porter, Barton & Co., in 1806, and her name changed to Nancy, and was sailed by Capt. Richard O'Neil.

The schooner Mary was built at Erie in 1805, by Thomas Wilson, for trade between Buffalo and Erie. She was sold to the United States, and was included in the surrender of Detroit by General Hull. She was subsequently burned by the British, at the River Thames, on the approach of Harrison's army, in pursuit of Proctor, October, 1813.

The first vessel built at Buffalo was the schooner Surprise, of about 25 tons, which must have been built about 1805. In 1806 the schooner Ranger, of 30 tons, was built at the river St. Clair, by Alexander Harrow, a half-pay British officer. The Ranger was at first commanded by Capt. Peter Curry, and afterward by Capt. Daniel Dobbins. She was purchased in 1808 by Porter, Barton & Co., from George Wilbur, and sailed by Captain Hathaway.

In 1807 the Provincial Government of Canada built, at Amherstburg, the armed brig Caledonia, of 86 tons, which was captured in company with the Detroit (formerly the Adams), by Lieut. Jesse D. Elliott, October 8, 1812, while lying at Fort Erie. This vessel subsequently comprised one of Commodore Perry's squadron, and was commanded by Lieut. Daniel Turner. After the war of 1812 was over she was sold by the government to John Dickson, of Erie, Penn., was repaired and renamed by General Wayne, and commanded by Capt. James Rough.

In 1808 the schooner Zephyr was built on the hill in the village of Cleveland, by Major Carter, and was hauled down to the river with oxen. She was of 45 tons burden. This was the first vessel built in Cleveland, and was commanded by Captain Cummings.

In 1809 the Provincial Government of Canada built, at Amherstburg, the armed brig Queen Charlotte, which was commanded by Captain Finnis, of the royal

navy, and was captured in the battle of Lake Erie.

In 1809 the schooner Catharine was built at Moy, by Alexander McIntosh, and was purchased by R. S. Reed and Capt. Daniel Dobbins, of Erie, Penn., who gave her the name Salina. She was commanded by Captain Dobbins up to the year 1812, and arriving at Mackinaw in June of that year, with a cargo of merchandise and produce for the market, she was, together with the schooner Mary, commanded by Capt. James Rough, the sloop Erie (built at Black Rock in 1810), Captain Norton, and Friends Good Will, Captain Lee, captured when that place was taken by surprise by the enemy. Upon arriving at Detroit they were ordered by General Hull to stop, and they were again captured when that post was surrendered by General Hull to the British. By the British she was used the remainder of the season, and late into the fall as a transport. While on her passage from Maumee to Fort Malden she was caught in the ice and abandoned. In 1813 a vessel was discovered in the ice off Erie, and Captain Dobbins and a party of men went out some ten miles to her where she lay. The vessel was found to be the Salina with some fresh beef and other provisions on board. She had drifted from the head of the lake to where she was found. A few days afterward Captain Dobbins stripped her, taking out such provisions and other materials as were of value, and then set her on fire. In 1811 the Salina had a remarkable cargo for value, which consisted of \$120,000 worth of furs, at the Mackinaw valuation. At Montreal their worth would be doubled. The agent of the Northwest Company, to whom the furs belonged, was on board, and the furs were stowed upon deck as well as below.

In 1810 the Provincial Government of Canada built the armed brig, Lady Prevost, 97 tons, at Amherstburg. She was captured in Perry's victory. In 1815 she was sold by the government to R. S. Reed, of Erie, who subsequently sold her to parties in Canada. She was employed many years in the merchandise service, commanded by Capt. Robert Maxwell.

During the same year the sloop *Commencement*, of 30 tons, was built at Buffalo creek, and was commanded by Capt. William P. Dexter, and also in the same year the sloop *Erie* was built at Black Rock, by Porter, Barton & Co., and was commanded, first by Capt. Richard O'Neil, and afterward by Capt. Walter Norton. As before stated, she was captured at Mackinaw. Also in 1810 the sloop *Friends Good Will*, 60 tons, was built at Black Rock, by Capt. William Lee, who commanded her after she was launched. She was also captured at Mackinaw, fitted out as a man-of-war by the British, and re-named the *Little Belt*. She was captured in the battle of Lake Erie.

In 1810 the schooner *Ohio*, of about 60 tons, was built at Cleveland, Ohio, by Murray & Bigsby, and was commanded by Capt. John Austin. She was sold to the government at Black Rock in 1812, and was one of Perry's squadron, commanded by Captain Dobbins. In 1814 she was captured, together with the schooner *Somers*, at Fort Erie, being then commanded by Lieutenant Conckling, and the *Ohio* by Sailing Master McCulloch.

In 1810 the schooner *Chippewa*, of 30 tons, was built at Maumee, by Capt. Bud Martin, and she was sailed by him. She was captured by the British, fitted out as an armed vessel, was a part of the British fleet in the battle of Lake Erie, and was there captured.

In 1812, the schooner *Sally*, of 25 tons, was built at Cleveland, and was sailed by Capt. Abijah Baker.

About this time several armed vessels were built by the British, viz.: the brig *Hunter*, in 1806, 10 guns; the *Camden*, of 100 tons, 1804, carrying 10 guns; the sloop *Hope*, lost near St. Joseph's, Lake Huron; the flag ship *Detroit*, 19 guns, in 1813.

The British also had in the merchant service, at an early day, the sloop *Nancy*, 38 tons; the schooner *Nancy*, 94 tons; and schooner *Thames*, of 80 tons. The schooner *Eleanor* is also mentioned as being on Lake Erie before the war of 1812.

#### FORT DEARBORN ESTABLISHED.

The United States Government main-

tained garrisons at Detroit, Mackinaw and other posts, and decided to establish one on Lake Michigan also. By the Treaty of Greenville, executed August 3, 1795, the Pottawatomie Indians ceded to the United States a tract of land six miles square at the mouth of the Chicago river. It was a favorite trading post of the Indians, and a French mission and fort had existed somewhere in the vicinity prior to 1700. In 1803-4 the United States built a fort on the south side of the river, naming it Fort Dearborn, in honor of the then Secretary of War. It had first been intended to establish this post at St. Joseph, on the east shore of the lake, but some difficulty arising in securing title from the Indians the site was changed to Chicago.

Mrs. John H. Kinzie, daughter-in-law of John Kinzie, the first permanent settler at Chicago, says respecting the lake navigation for a few years after the fort was established there in 1804: "The vessels came in the spring and fall (seldom more than two or three annually) to bring the supplies and goods for the fur trade, and took the furs already collected to Mackinac, the depot of the Southwest and American Fur companies. At other seasons they were sent to that place in boats, coasting along the lakes."

John Whistler, who had been a soldier in the British army that surrendered at Saratoga in 1777, and who afterward enlisted in the American army, was captain of the company which in 1804 was ordered from Detroit to build the fort at Chicago. Lieutenant Swearingen marched the company overland, 280 miles, but Captain Whistler and family took passage in the United States schooner *Tracy*, Dorr master, bringing baggage and supplies. The schooner stopped first at St. Joseph, Mich., whence the passengers came to Chicago in a rowboat. The schooner, on arriving at Chicago, anchored half a mile from shore, discharging her freight by boats, for the river's mouth (then at Madison street) was not usually fordable, and was always far too shallow to admit any sailing vessel. Mrs. William Whistler, daughter-in-law of Captain Whistler, says that some two thousand

Indians visited the locality during the vessel's stay, to see the "big canoe with wings."

In 1809 Ramsey Crooks arrived at the fort on board the *Salina*. In 1814 the first merchant brig, *Union*, was placed on the lakes, but being considered too large, 96 tons, she was laid up until the growth of trade called her again into service.

#### EARLY VESSELS ON LAKE SUPERIOR.

During the first years of the nineteenth century, several other decked vessels besides the *Otter* appeared on Lake Superior. At the beginning of the year 1812 the North-westers reported to the Canadian Government that in case of war they would put at its disposal one vessel of 120 tons that could carry six or eight guns, and another of sixty tons. Nor were these two the whole of the Superior fleet, for in July, 1814, three others were captured by the Americans, namely: The *Perseverance*, of 85 tons, the schooner *Mink*, of 45 tons, and the sloop *Nancy*, of 38 tons. As an indemnity for two of them £3,500 were paid the company by the British Government.

There was yet another schooner on the uppermost lake before 1812. This was the *Recovery*, which through fear of American privateers was secreted in one of the deep water canyons at the northeast end of Isle Royale. Her spars were taken out, and being covered with brushwood she lay undetected until the termination of hostilities. Then, put again in commission, she was after a while run down the rapids, and under Captain Fellows she was engaged in the Lake Erie lumber trade. Wrecked at last near Fort Erie, opposite Buffalo, her skeleton there was long pointed out to strangers.

Commerce on Lake Erie, between 1805 and 1812, consisted mainly in the transportation of salt from points on the Niagara river to Erie, Penn., whence it was conveyed to Pittsburg. Four or five vessels were owned by Porter, Barton & Co., of Black Rock, they being engaged in lake commerce. Each vessel carried from 125 to 150 barrels of salt. When the wind was blowing down the lake these vessels were

frequently wind bound at Fort Erie for a long time, salt accumulating at such times to the extent of 500 or 600 barrels. Black Rock was then the salt exchange of the lakes.

#### THE FUR TRADE.

The trade of the upper lakes during these beginnings of American inland commerce was chiefly in furs. In 1808 John Jacob Astor established the American Fur Company, with its line of posts across the continent. He was born in Waldorf, Germany, July 17, 1763, sailed for Baltimore in 1783 with a quantity of musical instruments to sell on commission. One of his shipmates was a furrier, who filled his imaginations with stories of the large profits in trading with the Indians. He resolved to learn the details of the trade, and entered the establishment of a Quaker furrier. It was about 1809 that he conceived the idea of rendering American trade independent of the Hudson Bay Company, and in 1816 secured the passage of an Act, forbidding British interests from trading in furs in American territory. Astor established a chain of trading posts to the Pacific coast. His fortune at his death, in 1848, was estimated at twenty million dollars.

*The American Fur Company* was organized with a capital of two million dollars. It had no chartered right to a monopoly of the Indian trade, yet by its wealth and influence it virtually controlled that trade through a long series of years. The outposts of the company were scattered through the West and Northwest. Mackinac island was the great central mart. The goods were taken to the company's storehouses there from New York by way of the lakes, and from Quebec and Montreal by way of the Ottawa, Lake Nipissing and the French river, and from Mackinac they were distributed to all outposts, while from all the Indian countries the furs were annually brought down to the island by the company's agents, whence they were sent to New York, Quebec, or the various markets of the Old World. The traders and their clerks who went into "the countries" were employed by the company at a salary



of from \$400 to \$600 a year, but the engages, or boatmen, who were engaged in Canada, generally for five years, received, besides a yearly supply of a few coarse articles of clothing, less than \$100 per annum. Generally at the end of five years, the poor voyagers were in debt from fifty to one hundred and fifty dollars, which they must pay before they could leave the country; and the trader often took advantage of this, even encouraging the men to get in debt, that they might avoid the necessity of introducing new and inexperienced men into the country. The men were fed mainly on soup made from hulled corn, or sometimes of peas, with barely tallow enough to season it, and without salt, unless they purchased it themselves at a high price. The goods were put up in bales or packs of about eighty pounds each, to be carried into the countries. Upon setting out, a certain number of these packs were assigned to

each boatman, which he must carry upon his back across the portages, some of which were fifty miles over. They performed the journeys over these portages by short stages, or by carrying the packs but a short distance at a time, thus never permitting their goods to be separated. The route of travel to the head waters of the Mississippi was by way of Lake Huron, St. Mary's river, Lake Superior, and such rivers as would take them nearest the particular points to which the various parties had been assigned. The valleys of the Mississippi and the Missouri were reached by Green Bay, Fox and Wisconsin rivers. The traders often occupied nearly the whole summer in the trip from their trading posts to Mackinac and back. Mr. Astor's principal agent at Mackinac island was Ramsey Crooks, to whom, with others, he sold out in 1834; but the company soon became involved. In 1848 the business was closed.

## CHAPTER XI.

### WAR OF 1812.

EARLY ADVANTAGES OF THE BRITISH ON THE GREAT LAKES—FALL OF MACKINAC—PREPARATIONS IN CANADA—SURRENDER OF HULL—MASSACRE AT FORT DEARBORN—ELLIOTT'S GALLANT EXPLOIT—PANIC AT CONNEAUT—EVENTS ON THE NIAGARA FRONTIER—ON LAKE ONTARIO—ENGLISH FLEET DRIVEN FROM SACKET'S HARBOR—CAPTAIN CHAUNCEY'S APPOINTMENT—AMERICAN AND BRITISH NAVAL STRENGTH—CHAUNCEY'S FIRST CAMPAIGN—EVENTS ON LAKE ONTARIO IN 1813—TORONTO (YORK) IS TAKEN—DESCENT ON FORT GEORGE—FORT GEORGE CAPTURED—YEO ON LAKE ONTARIO—ATTACK ON SACKET'S HARBOR—THE ENEMY RETIRES—BLACK ROCK CAPTURED AND RE-CAPTURED—TORONTO (YORK) IS DESTROYED—SCHOONERS JULIA AND GROWLER CAPTURED—OTHER MINOR ENGAGEMENTS—EXPEDITION AGAINST MONTREAL.

Nail to the mast her holy flag,  
Set every threadbare sail,  
And give her to the god of storms,  
The lightning and the gale.

*Old Ironsides.*

**W**HEN hostilities broke out in 1812 between the United States and Great Britain the chain of Great Lakes were again the scene of strife, and their possessions be-

came a matter of supreme importance. This importance was not realized at Washington, and the consequence was the speedy loss of the western frontier to the United States, and its control by Great Britain. In the two or three previous conflicts on the St. Lawrence system Quebec or Montreal had been the points of attack. In the war of 1812 the first blow fell in the West, and gave

the British command of Lakes Erie, Huron, Michigan and Superior.

Settlements along the lakes were few and scattering. The British had the advantage of holding the river approach to the Great Lakes, with comparatively easy access of supplies. For the United States the shores of Lake Erie were still on the extreme frontier. The American lake shore was wild, infested by fever during the summer months, destitute of roads, with no adequate population to furnish supplies, which had to be transported for long distances and at great expense, mostly on packhorses. The same difficulties had repelled many English attacks in previous years, when Canada was still a French possession.

The United States aimed the first blow on the western frontier, but wholly by land force. General Hull, Governor of Michigan, was given 2,000 troops, but no naval strength. The United States Government did not even take measures to fit out with a naval force the little government-armed vessel, *Adams*, which then lay at Detroit. Governor Hull insisted that control of Lake Erie, then possessed by two or three small British cruisers, should first be secured. He was on the remote frontier, menaced on all sides by hovering bands of Indians, with no communication by land to Urbana, 200 miles distant, the base of supplies. With the lakes also held by the enemy, his position he deemed very precarious. Governor Hull, knowing the condition of affairs in the Northwest, was opposed to an invasion of Canada, and he urged that a military force be sent to his territory ample for its defense, and for the third time called the attention of his government to the necessity of a small American fleet on the lake. To some extent his advice was heeded and acted upon, and Commander Stewart was ordered to Washington to receive the appointment of agent on Lake Erie, and orders concerning the building of a fleet on that lake. Governor Hull was persuaded against his own inclination and desire to accept the appointment of brigadier-general, and to take part in the war, and when he arrived at Dayton, Ohio, May 25, 1812, he found three regi-

ments already organized, the command of which was surrendered by Governor Meigs to General Hull that morning.

Hull immediately began his march to Detroit, and upon arriving at what is now Maumee City, Ohio, sent the *Cuyahoga* to Detroit with his baggage and that of most of his officers. A small vessel accompanied the *Cuyahoga* for the conveyance of army invalids, both sailing into Maumee bay, where Toledo now stands, July 1. On the same day the army moved toward Detroit by way of Frenchtown, now Monroe, Mich., on the River Raisin. Upon reaching Frenchtown General Hull was overtaken by a courier sent by postmaster Walworth, of Cleveland, Ohio, with a dispatch informing of the declaration of war against Great Britain, and ordering him to proceed with all possible expedition to Detroit, and there to await further orders.

Next morning, July 2, while sailing past Malden, unconscious of danger, the *Cuyahoga* was brought to by a gun shot from the shore, and schooner and cargo became a prize. The other vessel, containing the invalids, passed up on the west side of Bois Blanc island, and reached Detroit July 3.

The Governor-General of Canada, Sir George Prevost, had been informed of the declaration of war on June 24, and on the 25th he sent a courier to Sir Isaac Brock, the lieutenant-governor, then at York (now Toronto), the courier reaching Sir Isaac at Fort George on the Niagara frontier, July 3. Colonel St. George, at Malden, was informed of the declaration of war June 30, two days before General Hull received his dispatch from Cleveland.

Hull's army spent the 4th of July in building a bridge across the Huron river near Brownstown, twenty-five miles from Detroit. Next morning they marched on, and in the evening encamped at the lower end of the Detroit settlement, opposite Sandwich, in Canada, where a British force was stationed, and not far from which place they were throwing up fortifications opposite Detroit.

After some delay and impatience on the part of Hull's army, that general received orders justifying him in invading Canada,

and accordingly July 12, 1812, General Hull, with a force of 2,200 men crossed over at Sandwich, planted the American standard and issued his proclamation to the people of Canada, assuring them that he was there not to injure but to protect them. The immediate object to be accomplished by this invasion was the prevention of the completion of fortifications on the Canadian side of the river.

*Fall of Mackinac.*—Early in the spring of 1812, before events had assumed a warlike aspect, General Brock had provided for the protection of Fort St. Joseph, a small post to the northward of the island of Mackinac, or Michilimackinac, and upon learning of the declaration of war by the Government of the United States, one of that general's first acts was to send a notification thereof to Captain Roberts, then in command of St. Joseph, with instructions to make, if practical, an immediate attack on Michilimackinac.

The Secretary of the American Treasury franked the letter the messenger carried to Captain Roberts at St. Joseph, bearing the news of the declaration of war, together with the suggestion that as his best means of defending his own, he had better attack Mackinac. This was an enterprise of greater moment than Roberts cared to make, but he endeavored to carry out the request of his superior officer, and, securing the support of the agents of the two western fur companies, plans were quickly made. Two neighboring tribes of Indians, the Ottawas and the Chippewas, were invited to join him, and they flocked to his aid. The French, too, joined the English, and in eight days Captain Roberts had a force of more than one thousand men, and July 16 he embarked. The conduct of the Indians first aroused the suspicion of the little garrison at Mackinac that something was wrong. The red men in obedience to orders were all going to the Sault. Lieutenant Hanks made every effort to learn the cause of this sudden and unexplained movement. Seegeenoe, the chief of the Ottawas, was questioned, but he gave no satisfactory explanation.

Captain Roberts landed his forces on

the northwest side of the island, and began his march to the fort. They planted a gun in the road, only a few paces from the parade ground, and awaited the approach of day.

The inhabitants of the town were gathered at the distillery, and, on discovering the overwhelming numbers of the enemy, surrendered. Lieutenant Hanks had received no intelligence that war had been declared, and was therefore unprepared to defend himself. The British were in a position which partially commanded the fort, and aided by a thousand Indian warriors. Accordingly Lieutenant Hanks surrendered the fort, and the men were sent on parole to Detroit.

After the surrender of the fort, the citizens were assembled at the government house, and were asked to take the oath of allegiance to the British crown. This most of them did, but several refused. They were sent under guard, and kept away until peace was declared. Captain Roberts and his men were highly rewarded by the British government for the capture of the fort. Ten thousand pounds in prize money was distributed to the soldiers, and merchandise and arms to the Indians. Sir William Johnson, in "Old Mackinac," 1836, says he "examined the list or pay-roll for this prize money; the names for all those participating in the taking of Fort Mackinac were there enrolled, the money was divided according to rank, and each person receipted for his individual share."

After the easy gaining of the important western military position, the English began to strengthen themselves at that point, and constructed a new fortification at the crowning point of the island, named in honor of their sovereign, Fort George.

The capture of Mackinac island was of great importance to the British, as they obtained valuable stores and seven hundred packages of costly furs, secured the key to the fur trade of the vast region round about, and the command of the upper lakes was immediately transferred to them. Besides all this the bar that had previously secured the neutrality of the Indians of that vast region was removed.



## PREPARATIONS IN CANADA.

When the declaration of war was made Major-General Brock was at York. He at once hastened to Fort George on the Niagara frontier, and there established his headquarters. Eight hundred of the militia of the peninsula between Lake Ontario and Lake Erie responded to his call, and 100 Indians on Grand river, under John Brant, came on and brought promise of the speedy appearance of the rest. The American force on the east side of the Niagara was scattered along a line from Buffalo to Fort Niagara, and were estimated by General Brock to amount to 1,200 men.

On the 20th of July, General Brock heard of the invasion of Hull; he dispatched Colonel Proctor of the 41st Regiment, and with such re-enforcements as he could spare, to take command at Amherstburg. General Brock himself hastened to York, leaving the Niagara frontier in charge of Lieutenant-Colonel Myers, and opened the Legislature in person. There was evidence also, he thought, of an alarming spirit of disloyalty among the people of Upper Canada. Five hundred of the militia of the western district had already sought the protection of Hull, the Norfolk militia refused to take up arms, and the Indians on the Grand river declared their intention to remain neutral.

All this, however, was quickly changed by General Brock's proclamation of the 22nd of July, and the news of the fall of Mackinac and the reverses to the Americans on the Detroit river caused a complete reversal of public sentiment. On August 4, General Brock found that he could be spared, at least for a short time, from the seat of government. He embarked for Burlington bay, went thence by land to Long Point, where after receiving a promise from the Indians on the Grand river that sixty of their braves would join him on the 10th, embarked his regulars and 300 militia in boats for Amherstburg, 200 miles, which place he reached after a rough passage of four days and nights.

Much dissatisfaction was everywhere manifested among General Hull's soldiers at

his inactivity and apparent incapacity for command, and there was much loud talking at headquarters, talk which startled the General and caused him to call a council of his field officers. The result of this council was an agreement to march early on Malden. Every necessary preparation was made, but an order was issued to recross the river to Detroit, which meant to abandon Canada. This second order of General Hull was caused by General Brock's approach, with a considerable body of British and Indian troops.

At Amherstburg General Brock saw Tecumseh, with whom he held a consultation. He pushed on, and began to prepare for offensive operations. Batteries were erected on an elevated part of the bank of the Detroit river, there about a mile wide, opposite Fort Detroit on the American side, General Brock resolving to strike an effective blow before General Hull could receive re-inforcements. On the 15th of August, therefore, from his headquarters at Sandwich, he sent a flag to General Hull, with a summons to surrender Fort Detroit immediately, stating that he was disposed to enter into such conditions as would satisfy the most scrupulous sense of honor, and intimating that the moment hostilities should commence the Indians would be entirely beyond his control. General Hull replied that he was ready to meet any force that General Brock might have at his disposal, and also any consequences that might result from the exertion of that force General Brock might see proper to make.

## SURRENDER OF HULL.

The return of the messenger with General Hull's bold reply was the signal for the attack, and a galling fire was immediately opened upon the town and Fort Detroit. The Americans in their trenches outside of the fort were eager for battle, and stood with lighted matches awaiting the order to fire. But when the British were within 500 yards, to the amazement of both armies General Hull hoisted a small white flag over the fort. Not only the army in Detroit but all the force under Hull's command became prisoners of war. The number of troops

under General Hull was probably about 2,000 men, while the troops marching to the attack were composed of 600 Indians and 770 soldiers with five pieces of artillery. The Queen Charlotte was in the river protecting the right flank of the little advancing army. During the whole of the morning previous to the surrender the batteries on the Canada side kept up a vigorous cannonade, and it was only toward the last that any casualty was the result. Then a ball came bounding over the officers' quarters, and a group of officers was almost annihilated. Captain Hanks, of Mackinac, Lieutenant Sibley and Dr. Reynolds were instantly killed, and Dr. Blood was seriously wounded. Almost immediately afterward two other soldiers were also killed by another ball. In his dispatch to the Secretary of War, General Hull takes upon himself the entire responsibility, as all of his officers and his soldiers were anxious to fight. The entire country of the United States was humiliated beyond measure at the surrender.

The volunteers and militia made prisoners of war were permitted to go to their homes on parole, those of Michigan being discharged at Detroit, and those from Ohio being taken to Cleveland in vessels, and making their way home from that city. General Hull, with the regular soldiers, embarked at Malden in the Queen Charlotte, Hunter, and other public vessels, were conveyed to Fort Erie, and thence marched to Fort George, where they were again placed on vessels and sent to Kingston, whence they were escorted to Montreal. On September 10, 1812, together with eight American officers, General Hull left Montreal on parole for the United States.

When the force of the blow to the American nation came to be realized by the people of that country, it was felt not only as a great disgrace but as a terrible disaster. The victory of General Brock inspired the timid and awed the disaffected inhabitants of the Province of Canada. The Indians of the West also became strongly attached to the British cause, many of whom would have united their fortunes with the United States had General Hull driven General

Brock into the Detroit river, as there were many tribes undecided as to which party to join, until this battle was won for Canada.

On the day of the surrender General Brock issued a proclamation to the citizens of the Territory of Michigan, assuring them of the protection of life, property and religious observances, but calling upon them to give up all public property in the Territory. Leaving Colonel Proctor in command at Detroit with a garrison of 250 men, he hastened to York, arriving there on the 27th of the month, and was received with great enthusiasm by the people, who regarded him as the savior of the province, as he undoubtedly was. General Brock's dispatches and the colors of the 4th United States Regiment reached London, October 6, the anniversary of his birth. A week later the gallant general was no more.

#### MASSACRE AT FORT DEARBORN.

Fort Dearborn, which stood on the site of Chicago, was blotted out August 15, 1812. It was a solitary post in the midst of a vast wilderness, and, in consequence of orders issued by Hull, was evacuated August 15. The retreating column of 70 soldiers, besides men and women, the rear covered by supposed friendly Miami Indians, was attacked two miles down the shores, near what is now Eighteenth street, Chicago, and a horrible massacre followed. When the force was reduced to twenty effective men, it surrendered. The captives were distributed among the savages, and most of them finally reached Michilimackinac, where they were ransomed by the British commander. The upper lakes were now in complete control of the British.

#### ELLIOTT'S GALLANT EXPLOIT.

Before the close of 1812 a brilliant naval exploit occurred at the lower end of Lake Erie. Captain Chauncey, in command on Lake Ontario, had sent Lieut. Jesse D. Elliott to purchase or build a fleet on Lake Erie. According to instructions, he reported to General Van Rensselaer, who was on the Niagara frontier, asking him as to the best position to build, repair and fit for service such vessels as might be

required on Lake Erie. Black Rock was chosen as the place for the first navy yard on Lake Erie. Early in October Elliott learned that two British vessels had come down the lake and anchored under the British guns of Fort Erie. They were the brigs Adams and Caledonia, the former a prize captured at Detroit, when Hull surrendered, and the name of which was afterward changed to Detroit. Both were well armed and manned, and the Caledonia was loaded with a valuable cargo of furs. Elliott resolved to capture them. A body of seamen were on their way from Albany to the lakes, and when they were thirty miles distant, Elliott dispatched a messenger to hasten them. Footsore and tired, they arrived at noon. The commander had two small boats in readiness, but the entire arms mustered only twenty pistols, with neither cutlasses nor pikes. General Smyth, in command of the regulars, when applied to, furnished a few muskets and a detachment of fifty soldiers. At 1 o'clock in the morning, Elliott quietly pulled out of Buffalo creek with a crew of fifty in each of his two boats. The lake was calm, and the wearied seamen pulled the oars for two hours when the vessels loomed up before them.

In ten minutes they were in complete control of the two prizes, and their crews were prisoners without the loss of a single man. The captors could not make sail for the wind was light. The rapid current drew the vessels sternward, and the British guns opened fire.

The Caledonia, which was the lighter vessel of the two, picked her way out of the current, and beached herself on the American side near one of the American batteries at Black Rock. But Elliott was compelled to drop anchor within 400 yards of two British batteries. He transferred all his guns to the starboard side, and replied vigorously till his ammunition was exhausted. He then cut cable and drifted down the river. The pilot had taken French leave, and no one aboard knew the current. The Detroit drifted astern for ten minutes, then struck a cross current and brought up on the shore of Squaw island,

near the American side. With difficulty the prisoners and crew were got to the American shore in the two small boats. About 11 o'clock in the morning a company of British soldiers rowed over and boarded the Detroit with the intention of burning her munitions. American volunteers drove them back before the match could be applied. But the ship was too badly grounded to get her off, and after taking her stores out, Elliott burned her. The little Caledonia was a valuable prize, having, beside her armament, a cargo of furs valued at \$150,000. The little vessel did good service on the American side the next year in the battle of Lake Erie.

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*Panic at Conneaut.*—The presence of a hostile fleet on Lake Erie naturally alarmed the settlers on the south shore. Howe in his Historical Collections of Ohio narrates an alarm at Conneaut. He says: "On the night of the 11th of August, 1812, the people of Conneaut were alarmed by a false report that the British were landing from some of their vessels. A sentinel, placed on the shore, desecrating boats approaching, mistook them for the enemy. In his panic he threw away his musket, mounted his horse, and dashing through the settlement cried with a stentorian voice, 'turn out! turn out! save your lives, the British and Indians are landing and will be on you in fifteen minutes!' The people aroused from their beds, fled in the utmost terror to various places of covert in the forest. Those of East Conneaut had sheltered themselves in a dense grove, which, being near the high road, it was deemed that the most perfect silence should be maintained. By that soothing attention mothers know how to bestow, the cries of the children were measurably stilled; but one little dog, from among his companions, kept up a continual unmitigated yelping. Various means having in vain been employed to still him, until the patience of the ladies was exhausted, it was unanimously resolved that that particular dog should die, and he was therefore sentenced to be hanged without benefit of clergy. With the elastics supplied by the



ladies, for a halter, and a young sapling for a gallows, the young dog passed from the shores of time to yelp no more."

#### EVENTS ON THE NIAGARA FRONTIER.

Meanwhile events of extreme importance were in progress on Lake Ontario, the opposite shores of which were well settled by the contesting nations.

General Brock, after arranging matters, civil and military, in the West, hastened to the Niagara frontier, leaving all the force he could spare at Detroit. When he was crossing Lake Erie in the schooner *Chippewa* he received intelligence of the armistice arranged between Sir George Prevost and General Dearborn, commander-in-chief of the American army. During the continuance of this armistice, the transport of American stores, provisions, etc., not being prohibited, was protected and facilitated on Lake Ontario and all along the Niagara frontier. This armistice was effected early in August, 1812. It lasted one month, owing to the difficulty and slowness of getting dispatches from one part of the country to another, and Sir George Prevost, as soon as possible, advised General Brock of the disallowance of the temporary truce. Col. Solomon Van Rensselaer, at the beginning of it, made an arrangement with General Sheaffe, commanding at Fort George, by which the navigation of Lake Ontario should be unrestricted for both parties, and thus restrictions upon the movements of troops, stores, etc., were confined to the lakes above Fort Erie. Lossing says this was of vital importance to the Americans, for the much-needed supplies for the army, ordnance and other munitions of war collected at Oswego could only be taken to the Niagara frontier by water, on account of the extremely bad condition of the roads, and, according to Colonel Van Rensselaer, "no sooner was the way open than an express was sent to Ogdensburg with an order for the removal of nine vessels from that place to Sacket's Harbor. To this movement was Commodore Chauncey indebted for the ascendancy which he for a time was enabled to maintain on the lake (Ontario), and without which the sub-

sequent descent on Little York could not have been attempted." These vessels, thus released, were converted into vessels of war, and Colonel Fenwick, at Oswego, moved forward over the lake with a large quantity of supplies.

But the armistice finally terminated, by order of General Dearborn, on the 29th of August, the order reaching General Van Rensselaer on the Niagara frontier, September 12. On the 26th of September General Dearborn wrote to General Van Rensselaer that he hoped he would not only be able to meet the enemy, but that he would also carry the war into Canada. General Van Rensselaer made arrangements October 10, 1812, to invade Canada and assail Queens-ton at three o'clock next morning. During the evening thirteen large boats, capable of carrying 340 fully-armed and equipped men, were taken down on wagons from Gill's creek two miles above the Falls, and placed in the river at Lewiston under cover of darkness. Col. Solomon Van Rensselaer was appointed to the command, which was not all relished by some of the regular army officers. A most remarkable circumstance occurred as the troops were ready to cross at Lewiston. Lieutenant Sims, who had been entrusted with the command of the flotilla, entered the foremost boat and quickly disappeared in the darkness and gloom. By mistake or otherwise he took with him all the oars, so that the rest of the men, ready to cross over, could not do so. Going far above the selected landing place, he got on dry land and ran away as fast as his legs could carry him. This was all in the midst of a storm of great violence, which continued for twenty-eight hours, and the troops that were so anxious to follow Lieutenant Sims were compelled to lie idle in their camp.

When the storm had subsided, preparations were made for a second attempt to invade the enemy's country. The river was narrow, and every open movement on one side was visible on the other. Lieut.-Colonel Chrystie with 350 men, regular soldiers, arrived at Four-mile creek late on the evening of the 10th, and hastened to headquarters, offering the services of him-

self and his men; but as the boats could not carry over more than had been selected to go, Colonel Chrystie was detained at Four-mile creek. There was also a strong force at Fort Niagara, all of which tended to deceive the British general as to where the attack would be made.

At an early hour in the evening of October 12, Colonel Chrystie marched with 300 men from Fort Niagara by an interior road, and reached Lewiston before midnight. Three regiments under command of Colonels Stranahan, Mead and Bloom, marched from Niagara and reached Lewiston in good time, and Lieut.-Colonel Scott also was soon in motion for Lewiston, reaching there at four o'clock in the morning. Thirteen boats filled with men crossed the river, three of them, however, losing their way in the darkness. Ten returned for more men. The British soon discovered the presence of the Americans, and opened fire upon them, killing Lieutenant Rathbone, who was by the side of Colonel Van Rensselaer; but the Americans scaled the Heights and proved themselves too strong for the British, who retired before the advance of the invaders. General Brock was then at Fort George, but hearing of the crossing of the Americans hastened to the point of invasion, and, in climbing the Heights, which Captain Wool had already taken possession of, was shot through the body and fell mortally wounded.

The Heights had not been won without desperate fighting. Captain Wool and his men had fought three distinct and severe battles in five hours before they became masters of the situation; but their victory was complete, and they maintained themselves in possession of the Heights until the afternoon. There were still 1,200 American militia that had not crossed the river. Colonel Van Rensselaer urged them to cross and sustain those already in possession of the Heights, but this they refused to do. It was not long before those on the British side began to see that they would soon be attacked by a greatly superior force of soldiers, brought together from above and below. These troops were led by able men, among them John Brant, Captain Norton

and General Sheaffe, the latter being in chief command. According to English authorities the attacking party numbered a little more than 1,000 men, while the Americans had in position about 300 men to defend the Heights they had captured. The attacking party proved too strong for the Americans, and at length Colonel Scott made his way toward the British general's position and waved a flag of truce, in token of surrender.

The entire number of Americans surrendered on that occasion was 900, including all that had crossed the river, and largely more than were engaged in the conflict. The number of killed was 90 and the wounded about 100, so that the loss was about 1,100. The British loss was 130 killed, wounded and prisoners.

Col. Solomon Van Rensselaer was wounded in five places during the battle, and for a time his life was despaired of, but he at length recovered. General Van Rensselaer, disgusted with the conduct of some of the regular officers and with his own militia, resigned his command, and was superseded by Gen. Alexander Smyth.

General Smyth unsuccessfully invaded Canada November 28. Arrangements were made for the expedition to embark at the navy yard, just below Black Rock, at reveille on the morning. Seventy public boats, five large private boats, and ten scows for the artillery, together with many smaller boats, were in readiness, enough to carry 3,000 men. At three o'clock in the morning the advance parties left the American shore. Colonel Winder's men were in 11 boats; Captain King's in 10, and all were under command of Lieut.-Colonel Boerstler. These crossed the river, and King's men were so warmly assailed by volleys of musketry and shot from a field piece that six of his ten boats were compelled to return. The other four landed, and the men in them made an impetuous attack upon the British and drove them away. But owing to mistakes of various kinds, after King had stormed and taken two British batteries above the landing place, captured and spiked the cannon and thrown them into the river, it became necessary for the at-

tacking parties to recross the river as best they could, after exhibiting much bravery and excellent fighting qualities. In other words the expedition was defeated. The net result of the affair appears to have been a quarrel and a duel between Gen. Peter B. Porter and General Smyth, in which neither was hurt. General Smyth was deposed from his command.

After the surrender at Queenston Heights an armistice was arranged between General Van Rensselaer and General Sheaffe. Of this armistice Christie, a Canadian writer, says: "This and the former armistice without affording any present advantage to the British, materially prejudiced their cause, especially on Lake Erie. The Americans availed themselves of so favorable an occasion to forward their naval stores from Black Rock to Presque Isle by water, which they could not otherwise have effected but with immense trouble and expense by land, and equipped at leisure the fleet which afterward lost us the command of that lake."

#### ON LAKE ONTARIO.

When the war began, the United States possessed small means on the northern frontier for either offensive or defensive operations. The first measure was the building at Oswego on Lake Ontario of the brig *Oneida*. She was commenced in 1808, and launched in 1809, and was designed to enforce the revenue laws on the frontier under the early embargo Acts. For a purpose similar to the above a company of infantry and some artillery were posted at Sacket's Harbor, which place during the war of 1812 was the principal military post on the lakes. In March, 1809, detachments of militia were stationed on the southern shores of the St. Lawrence, opposite Kingston, to prevent smuggling. In 1809 an arsenal was built at Watertown, where arms, ammunition and accoutrements and other army supplies were speedily gathered for use on the northern frontier, and when war was at length declared Brig.-Gen. Jacob Brown was charged with the defense of the frontier from Oswego to Lake St. Francis, distant about 200 miles.

In May, 1812, the schooner, *Lord Nelson*, owned by parties at Niagara, Upper Canada, laden with flour and merchandise, sailed from Niagara for Kingston, and being found in American waters was captured by the *Oneida* and condemned as lawful prize for a violation of the embargo Act. About a month later another schooner, the *Ontario*, was captured at St. Vincent, but soon afterward discharged. About the same time still another British schooner, named *Niagara*, was captured and sold because of a violation of the revenue laws.

These acts on the part of the Americans resulted in retaliation. When war was declared there were in the harbor at Ogdensburg eight American schooners, which attempted to escape to Lake Ontario, bearing away several families with their effects. An active Canadian, named Jones, raised a company of volunteers to capture them, giving chase in boats. Overtaking the fugitive flotilla at the foot of the Thousand Islands, a little above Brockville, he captured two of the schooners, the *Sophia* and the *Island Packet*, emptied and burned them. The rest returned to Ogdensburg.

From this latter enterprise the Americans inferred that more active operations were to follow on the part of the British; that the Thousand Islands were to be fortified, etc., and Governor Tompkins, of New York, ordered General Brown to call out reinforcements from the militia of Jefferson, Lewis and St. Lawrence counties, and to arm and equip them if necessary from the arsenal at Watertown, and at Russel Col. Benedict, of St. Lawrence, was ordered to guard the frontier from Ogdensburg to St. Regis. Measures were taken also to concentrate forces at Ogdensburg and Cape Vincent, in order to guard the frontier and to menace Kingston, that being the chief naval station of the British on Lake Ontario.

*English Fleet Driven From Sacket's Harbor.*—On July 29, 1812, Commander Woolsey, of the *Oneida*, at early dawn, from his masthead saw a squadron of five British vessels off Stony Island, veering toward the harbor. This squadron was composed of the *Royal George*, 21 guns;



the Prince Regent, 22 guns; Earl of Moira, 14 guns; Simcoe, 12 guns, and Seneca, four guns; all under command of Commodore Earle. This squadron captured a boat returning from Cape Vincent, and sent her crew to Bellinger with word that all they wanted was the Oneida and the Lord Nelson, and warning him, as commandant of Sacket's Harbor, that, if they were fired upon, the town would be burned.

Commander Woolsey, perceiving the danger to which the Oneida was exposed, weighed anchor and attempted to gain the lake; but failing in this he returned and moored his vessel just outside of Navy Point, in such position that her broadside of nine guns might be brought to bear on the enemy. The remainder of her guns were taken out and placed in battery on land. An iron 32-pounder, designed for the Oneida, but found to be too heavy, had already been placed in a battery with three other guns on the shore. These cannon were to be in charge of Capt. Elisha Camp, together with two six-pounders fished out of the lake from the wreck of an English vessel, and composed all the artillery pieces, with which to oppose the enemy that was approaching. The militia was called in from all the surrounding country.

But it turned out that the presence of the militia was not necessary, as the battle had been fought and won before their arrival. The bombardment of the place by the British was a failure, their balls for the most part falling short. One 32-pound ball, however, went over the bluff and struck the earth not far from Sacket's mansion. It was picked up by Sergeant Spier, and taken to Capt. William Vaughan, who sent it back at the enemy from his 32-pound cannon, and it struck the Royal George in the stern, raking her completely, killing 14 of her soldiers and wounding 18 more. As other vessels in the squadron had also been struck by the American balls, a signal of retreat was sounded, and the squadron put about and sailed out of the harbor.

#### EVENTS ON LAKE ONTARIO IN 1813.

In 1813 the Americans gained the first point, by being first to begin operations on

Lake Ontario. They were building the Pike at Sacket's Harbor, a ship of 875 tons, a crew of 300 men, and carrying 28 long 24-pound guns. The British were building two ships, each about two-thirds the force of the Pike, one at Toronto, the other at Kingston. Orders were given by the Secretary of War to consolidate 4,000 troops at Sacket's Harbor and 3,000 at Buffalo and vicinity. The 4,000 men at Sacket's Harbor were to be embarked and transported under convoy of the fleet to Kingston, where they were to land, capture the place and destroy all the shipping found there. It was then to go to Toronto, seize the stores collected there and the two frigates then building, and then to move on Fort George and Fort Erie.

Major Forsyth was ordered from Ogdensburg to Sacket's Harbor; General Brown was ordered to call out several hundred militia, and Col. Zebulon M. Pike, shortly afterward commissioned brigadier-general, was ordered to proceed from Plattsburg to Sacket's Harbor about March 1. It was then generally believed that Sir George Prevost had from 6,000 to 8,000 men at Kingston, engaged in active preparations for offensive operations; but, as Sir George did not appear at Sacket's Harbor, Commodore Chauncey determined to sail across the lake and ascertain the condition of affairs on the north side. Chauncey's squadron was ready for service April 19, and set sail on the 25th, having on board General Dearborn and a considerable force of troops. His squadron then consisted of the Madison, Oneida, Hamilton, Scourge, Tompkins, Conquest, Growler, Julia and Asp, the latter of 37 tons, a crew of 25 men and carrying one 24-pound gun; the Pert, the Fair American, the latter of 53 tons, a crew of 30 men and carrying one 24-pound gun and one 12-pound gun; the Ontario, of 53 tons, a crew of 35 men and carrying one long 32-pound gun and one long 12-pound gun; the Lady of the Lake, of 89 tons, a crew of 15 men, and carrying one 9-pound gun, and the Raven, a transport.

At this time the British squadron consisted of the following vessels: The Royal George, 21 guns; Earl of Moira, 14 guns;

Prince Regent, 16 guns; Duke of Gloucester, 14 guns; Simcoe, 12 guns, and Seneca, 4 guns.

For the purpose of creating a fleet on Lake Erie Captain Chauncey sent Lieut. Jesse D. Elliott with orders for purchasing vessels similar to those given to Commander Woolsey.

The command of Lake Ontario was considered an object of great importance by both contending parties. The British had then several armed vessels afloat, the Americans but one, and the only course the latter could pursue was to convert merchandise vessels into vessels of war. There were six of these vessels at Ogdensburg, but the British were determined that these six vessels should not be so converted. In order to capture them, they sent the Earl of Moira, 14 guns, and the Duke of Gloucester, 10 guns, down the river St. Lawrence to Prescott, opposite Ogdensburg, to seize them if possible. In order to save and arm them, the Americans sent the schooner Julia, with a 32-pounder on board and two long 6's and a rifle corps in a Durham boat. Sailing from Sacket's Harbor, on the evening of July 30, they passed on down the lake, and on the morning of August 1, after a battle in the St. Lawrence with the two British vessels, just named, they reached Ogdensburg. The armistice, which has already been mentioned, enabled the Julia, with the six schooners in her wake, to get into Lake Ontario.

*Captain Chauncey's Appointment.*—At this time the Government of the United States was putting forth efforts for the supremacy of the lakes, and transferred Capt. Isaac Chauncey, then at the head of the navy department at Brooklyn, N. Y., to Lake Ontario. Captain Chauncey arrived at Sacket's Harbor, October 6, 1812. The schooners Genesee Packet, Experiment, Collector, Lord Nelson, Charles & Ann, and Diana were purchased, manned and re-named, respectively, Conquest, Growler, Pert, Scourge, Governor or Tompkins and Hamilton. Adding to these the Oneida and the Julia and the Madison, the keel of which had then been recently laid, Captain Chauncey's squadron was as follows, to-

gether with their tonnage, crew and armament:

NAMES	TONNAGE	CREW	ARMAMENT
Madison .. . . .	593	200	24 short 32's
Oneida .. . . .	243	100	16 " 24's
Hamilton. ....	112	50	1 long 32
			1 " 24
			8 " 6's
Scourge .. . . .	110	50	1 " 32
			8 short 12's
			1 long 32
Conquest .. . . .	82	40	1 " 12
			4 " 6's
			1 " 32
Tompkins .. . . .	96	40	1 " 12
			6 " 6's
Julia .. . . .	82	35	1 " 32
			1 " 12
Growler .. . . .	81	35	1 " 32
			1 " 12
Ontario ....	53	35	1 " 32
Pert .. . . .	50	25	1 " 24

Other vessels were afterward added to this fleet.

*Chauncey's First Campaign.*—Captain Chauncey first appeared on Lake Ontario as the commander of a squadron November 8, 1812, with his flag fluttering from the Oneida, and accompanied by six small vessels, bound on an expedition to intercept the entire British squadron on their return from Fort George on the Niagara river, whither they had gone from Kingston with troops and munitions of war. Taking his station near the False Ducks, small islands west of Sacket's Harbor, he, in the afternoon of the 9th, fell in with the Royal George headed for Kingston. Next morning he gave chase with most of his squadron, followed the Royal George into Kingston harbor, and there engaged her and five land batteries for nearly an hour. These batteries being more formidable than he anticipated, he withdrew. Next morning, the 11th, the Tompkins, Hamilton and Julia chased the Simcoe over a reef of rocks, and she sank before she could reach Kingston. Soon after the Hamilton captured a large schooner from Niagara, the prize being sent past Kingston under convoy of the Growler, hoping, but failing, to bring out the Royal George. On the 12th Chauncey gave chase to the Earl of Moira, but she

escaped. He, however, captured her schooner convoy. During this short campaign Chauncey captured three merchant vessels, destroyed one armed schooner, and temporarily disabled the British flag ship, the *Royal George*, besides taking several prisoners, among them Captain Brock, a brother of General Brock, killed at Queenston Heights, himself losing one man killed and three wounded.

This was practically the end of the campaign on Lake Ontario for the year 1812, though about its eastern extremity there was some fighting on land, and the British made an attack on Ogdensburg, which was repulsed.

*Toronto (York) is Taken*—According to most American authorities, there were on board Chauncey's fleet 1,700 men; but English authorities say there were from 2,500 to 3,000. After a boisterous passage across the lake this fleet appeared before Toronto (then York) on the morning of the 27th, the town being garrisoned by about 700 men, but at the time all but absolutely defenseless. James gives the following painful picture of the state of unpreparedness: "The guns upon the batteries being without trunnions, were mounted upon wooden sticks, with iron hoops, and therefore became of very little use. Others of the guns belonged to the ship that was building, and lay on the ground partly covered with snow and frozen mud."

The debarkation began about 8 A. M. The *Duke of Gloucester* was in the harbor undergoing repairs, and her guns furnished armament for the batteries; but the defense of the place had been sadly neglected. On account of a strong easterly wind, the small boats were driven half a mile further than they intended to go to the westward, and really beyond an effectual covering by the guns of the squadron; but Major Forsyth and his riflemen in two bateaux led the van, and when within rifle shot of the shore were assailed by a volley from a company (sixty men) of Glengary Fencibles, and some twenty-five Indians under Major James Givens, concealed in the woods, with which the lake shore to the west of Toronto was then completely covered. Major Forsyth

halted his men, and was about to retreat, when General Pike, on board the *Madison*, seeing this halt, ordered his staff into their boat and with them was soon in the midst of the fight; for Forsyth's men were by this time returning the fire from the woods.

The vanguard soon landed, and were immediately followed by Major King and a battalion of infantry. General Pike and the main body soon followed, and the entire column pressed forward into the woods, using their bayonets chiefly. The battle was sharp, and lasted some time; but the Americans had a larger number of soldiers, the British having in the fight only about 430 besides the Indians, to oppose the landing, and were compelled to retire. The firing from the garrison ceased, but no white flag appeared as a token of surrender. The British, as soon as they discovered that they could not hold the place, blew up their powder magazine, containing 500 barrels of powder, situated on the edge of the water, at the mouth of a ravine. The effect of the explosion was terrific, and fragments of timber and huge blocks of stone were scattered in every direction over a space of several hundred yards. When the smoke from the exploded powder had cleared away, the scene was actually appalling. Fifty-two Americans had been killed and 180 officers and men had been wounded. Forty of the British soldiers were also killed by the explosion. General Pike, two of his aids and a British sergeant, with whom the General was conversing, were mortally injured. The Americans lost, on board the fleet, four killed and 8 wounded, and in the army 14 killed and 32 wounded, by the enemy's fire, to which, adding those killed and wounded by the explosion, the total loss was 288. The British regulars lost 130 killed and wounded, including those killed by the explosion, and also about 50 Canadians and Indians, besides 290 prisoners.

The American troops were thrown into a panic by the explosion and scattered in dismay; but they were soon rallied by Major Hunt and Lieutenant-Colonel Mitchell. Upon hearing of the death of General Pike, General Dearborn went on shore to take charge of the capitulation; but during the



panic General Sheaffe, collecting his regular force, left the civil authorities and the militia to their fate and hastened in the direction of Kingston. For his failure to defend the town of York, General Sheaffe was severely censured, and was soon afterward superseded by Major-General De Rottenburg.

*Descent on Fort George.*—Four days after the capitulation, or on the 8th of May, the troops were re-embarked preparatory to a descent on Fort George, where the British general, Vincent, was stationed with from 1,000 to 1,800 regulars, 600 militia and about 100 Indians. Crossing the lake and anchoring off Four-mile creek, four miles east of Fort Niagara, the troops were debarked, and Chauncey sailed for Sacket's Harbor with most of his fleet to obtain supplies and re-inforcements for the army. On the 22d the Madison sailed for Dearborn's camp with 350 troops, arriving at Four-mile creek on the 25th. There they met Commodore Perry, who had come down from Lake Erie to the great delight of Chauncey.

On May 26, in company with Commodore Perry, Commodore Chauncey, in the *Lady of the Lake*, reconnoitered the place to be attacked, and urged upon General Dearborn the importance of making the attack on the next morning. The American troops, fit for duty, amounted then to about 4,500 men, all under command of General Dearborn. The British force in the vicinity was composed of about 1,800 regulars under command of Brig.-Gen. John Vincent. After a brisk cannonading between Fort George and Fort Niagara, a large number of boats, which had been built at Five-mile Meadow, on the Niagara river, went down the river, reaching the American camp in safety. During the night all the heavy artillery and as many troops as possible were placed on the Madison, Oneida, and *Lady of the Lake*. Generals Dearborn and Morgan Lewis were both on board the Madison, and between 3 and 4 o'clock next morning the squadron weighed anchor, the troops all being embarked by about 4 o'clock. When the heavy fog disappeared and the sun broke forth in splendor, a magnificent sight was opened to the view, the large ves-

sels, filled with troops, being all under way, and scores of boats filled with soldiers, light artillery and horses advanced upon the enemy, who had been greatly perplexed by the fog.

The *Julia* and the *Growler* took their positions at the mouth of the Niagara river, to keep in check or to silence a battery near the lighthouse; the Ontario took a position north of the lighthouse so as to enfilade the same battery; the Tompkins and the Conquest took positions near Two-mile creek so as to command a battery erected there, and the Hamilton and the Asp and the Scourge took stations near the other two, to cover the landing of the troops. Lieutenant-Colonel Scott, when made adjutant-general, stipulated that in any extraordinary event he should command his regiment, and, as this was to be an extraordinary occasion, he was placed in command of the vanguard of 500 men to make the first attack.

The Tompkins, sweeping gracefully into position, opened fire upon the British battery with such precision that it was quickly silenced. The boats, under Scott and Perry, were covered completely by the heavy fire of grape, directed at the foe by the Hamilton, Asp and Scourge. Scott's men, in the face of the British regular troops, who opposed them with their bayonets, rushed up the bank, which was from six to twelve feet high, and after being repulsed three times, finally gained and held a position in a ravine near by.

*Fort George is Captured.*—After a severe and hard-fought battle of about twenty minutes, aided by the cannonade of the Hamilton and the well-directed fire of the American soldiers, the British broke and escaped in much confusion. The entire body of the British fled toward Queenston, pursued by Colonel Scott, General Vincent having blown up the small quantity of powder still remaining at Fort George, except two small magazines, which were prevented from exploding by the American troops.

The American loss in this battle was, according to Lossing, about 40 killed and 100 wounded, while Roosevelt says that one sailor was killed and 17 soldiers, and that two sailors and 45 soldiers were wounded.

making a total loss of 65. The British loss, according to Lossing, was 51 killed and 305 wounded, missing and prisoners; while Roosevelt says that the British loss was 52 killed, 44 wounded and 262 wounded and missing, in addition to about 40 Canadians and Indians, *hors de combat*, and nearly 500 militia captured. But the British troops fought nobly. It was simply impossible for them to stand against the fire of the schooners.

The effect of this victory was sweeping. The British evacuated the whole of the Niagara frontier, and left the river in complete possession of the Americans. By an order, issued by General Vincent on the afternoon of the 27th, Forts Chippewa and Erie, and all the public property from the latter down to Niagara Falls, was doomed to destruction, and in pursuance of that order Major Warren, in command of the batteries opposite Black Rock, opened fire upon that place, keeping it up all night until his troops should move off. In the meantime the magazine at Fort Erie was blown up, and magazines and storehouses all along the frontier were fired. In the evening of Friday, the 28th, Lieut.-Col. James P. Preston, commanding at Black Rock, crossed over with the 12th Regiment, and took possession of Fort Erie. Possession of this fort gave the opportunity long desired, of getting out of the Niagara river a fleet of five vessels into Lake Erie, Commodore Perry being despatched to take them out. These five vessels were taken up into Lake Erie, being hauled up by oxen against the stream. They afterward became a most important part of the American fleet on Lake Erie.

General Vincent's orders to Colonel Bisshopp, of Fort Erie, and Major Ormsby, of Fort Chippewa, were to vacate their respective posts, and to move with as little delay as possible by Lundy's Lane to Beaver Dam, where they were met by the General. At Beaver Dam General Vincent was joined also by one flank and one battalion company of the 8th Regiment, and by Captain Barclay, R. N., with a small body of seamen on their way to Lake Erie.

After resting two or three days at New-

ark, Commodore Chauncey sailed for Sacket's Harbor, and General Dearborn sent General Winder in pursuit of General Vincent for the purpose of attacking him among the hills or of arresting his flight toward the west. General Winder took the lake road and marched with rapidity to Twenty-mile creek, where he learned that General Vincent was in position at Burlington Heights, and that he had received re-inforcements from Kingston. Halting and sending back to General Dearborn for re-inforcements, he was soon joined by General Chanler on June 5, and General Chanler, being the senior officer, took command of the entire force. The advance guard of Chanler's army pushed forward until they could see Vincent's camp at the head of Burlington bay, and then returned to a meadow through which a branch of Stony creek flowed, and there encamped for the night. General Vincent, learning of the presence of the Americans, sent Lieutenant-Colonel Harvey back to learn the position, disposition and number of the troops, and, being properly advised, ordered an attack upon them while they were in camp, which attack was made about 2 o'clock on the morning of June 6, and a fierce battle ensued, lasting for some hours, during which General Chanler, General Winder and Major Van De Venter were taken prisoners, and General Vincent was thrown from his horse and lost in the darkness, his horse falling into the hands of the Americans. While this was practically a drawn battle, yet the Americans withdrew from the field, losing 17 killed, 38 wounded and 120 prisoners, while the British loss was 23 killed, 146 wounded and 55 missing. The Americans retired under command of Colonel Burns, upon whom the command devolved in the absence of General Chanler and General Winder in the enemy's camp. On June 7 the Americans were joined by Generals Lewis and Boyd, the former taking command.

*Yeo on Lake Ontario.*—Meanwhile Sir James Lucas Yeo had arrived from England to take command on Lake Ontario, and had infused new life into the Canadian forces, and had given an impetus to naval operations at Kingston. Soon after his arrival

Sir George Prevost consented to the employment of the naval force at Kingston for a descent upon Sacket's Harbor, then weakened by the absence of Chauncey's fleet at the upper end of the lake, and also by the absence of a numerous army recently stationed there.

*Attack on Sacket's Harbor.*—On the evening of May 27, the Lady of the Lake came into Sacket's Harbor with the intelligence that a strong British squadron, under Sir James Lucas Yeo, had just put to sea from Kingston, and on the 28th all the troops in the vicinity were collected at the place. At midday the British squadron appeared off Sacket's Harbor, the squadron consisting of the Wolfe, Royal George, Earl of Moira, Prince Regent, Simcoe and Seneca, besides about 40 bateaux. Sir George Prevost was in command of the squadron, and was on the Wolfe with Yeo. This squadron lay to about six miles from the harbor, a large number of troops being embarked in boats with the view of landing them. But these troops were soon ordered to return to the squadron. This order is believed to have been caused by the discovery of a number of American boats, coming from Oswego to the assistance of Sacket's Harbor. But a number of Indians, not perceiving any reason for returning to the squadron, did not do so, and starting round Stony Point they discovered the troops on the shore, and boldly made an attack upon them. The American flotilla, coming from the direction of Oswego, consisted of nineteen boats, and when the Indians made their attack, Sir George sent several boats filled with armed men, to the assistance of the Indians, with the result that twelve of the Americans boats and 70 men were captured. The other seven boats reached the harbor in safety.

*The Enemy Retires.*—Next morning at dawn thirty-three boats filled with armed men put out from the British squadron and made for Horse island, where they landed under cover of two gunboats. As this flotilla reached the island, the pivot gun in Fort Tompkins hurled enfilading shots into their midst, and when they neared the shore they were welcomed by a scattering fire

from the muskets of the militia. At the first approach of the enemy the militia fled, with some honorable exceptions, but General Brown sent word to the fugitive militia that a victory had been gained, and succeeded in rallying about 300 of them, who made a most gallant and determined effort to drive the British back to their ships, which they accomplished in several hours. Notwithstanding the retreat of his soldiers, Sir George sent a flag on shore, and demanded the surrender of the place. This was of course refused, and then he sent another flag, asking permission to land surgeons to take care of the British; this being also refused, he sailed away for Kingston.

As soon as the battle was ended, the attention of the soldiers was directed to the flames, that had been applied to the stores and the ships, Pike and the Duke of Gloucester, to keep them from falling into the enemy's hands, but the stores were destroyed, entailing a loss of about \$500,000. No further attempt was made to capture Sacket's Harbor throughout the war, and it remained to the end, as it had been from the beginning, the most important depot for supplies on the northern frontier. Sir James Yeo was opposed to the retreat, but Sir George Prevost was his superior officer, and nothing but retreat could be done by the fleet, the order having been given; and from this cause there was strong animosity between these two officers during the rest of the war. The British loss was 50 men killed and 211 wounded, while the American loss was 157 in killed and wounded.

This was the last American success on Lake Ontario or the St. Lawrence during the year 1813. After this defeat Sir James Yeo went to the head of Lake Ontario to the aid of General Vincent. He sailed from Kingston June 3, with about 280 soldiers, belonging to the 8th Regiment, for General Vincent, to co-operate with him and to provoke Commodore Chauncey to reappear on the lake. At 6 o'clock in the evening of June 7, his fleet appeared in the distance from the American camp at Forty-mile creek, and in the morning of the 8th, in the absence of wind, the larger vessels could not get near the shore, so the armed schoon-



ers, Beresford and Sydney Smith, besides one or two gunboats, were towed in and got within reach of the American batteries. Lieutenant Totten, having constructed a temporary furnace for heating shot, a few hot shot were thrown at the British schooners, and they were quickly withdrawn.

General Lewis then dispatched his camp equipage and baggage back to Fort George in bateaux, a dozen of which were captured by the British schooner Beresford, and the remaining five, being driven ashore, were abandoned. Sir James Yeo landed the detachment of the 8th Regiment, which he had brought for General Vincent, and uniting with Vincent's forces, they entered the abandoned camp of the Americans (who were following along after their bateaux toward Fort George), and there found, according to Auchinleck, 500 tents, 100 stand of arms, 140 barrels of flour, and about 70 wounded soldiers, whom they took prisoners. The Americans reached Fort George, and Lieutenant-Colonel Bisshopp pressed forward and took position a little west of the present Port Dalhousie, and covered the distance from that point to the mountain passes at Beaver Dam.

The British squadron in the meantime hovered along the lake coast, and greatly interrupted the delivery of supplies to the Americans in their camp. This squadron was then composed of the following vessels:

NAME	TONNAGE	CREW	ARMAMENT
Wolfe .....	637	220	{ 1 long 24 8 " 18's 4 short 68's 10 " 32's
Royal George...	510	200	{ 3 long 18's 2 short 68's 16 " 32's
Melville.....	279	100	{ 2 long 18's 12 short 32's
Earl of Moira ...	262	100	{ 2 long 9's 12 short 24's
Sydney Smith...	216	80	{ 2 long 12's 10 short 32's
Beresford .....	187	70	{ 1 long 24 1 " 9 6 short 18's

This squadron captured two vessels, laden with hospital stores, in the mouth of Eighteen-mile creek, eastward of the mouth

of the Niagara river, and on the 15th made a descent upon the village of Charlotte, at the head of navigation in Genesee river. Sailing eastward, they appeared off Sodus bay on the 18th, and on the next day landed at Sodus Point for the purpose of destroying stores. But the stores had been concealed, and in attempting to find them they were met by Captain Turner, of Lyons, and after a sharp skirmish, in which each side lost two men killed, they fell back, and as they retired burned the public store house, five dwellings and the old Williamson hotel. From Sodus Point the squadron sailed eastward for Oswego harbor, but after deciding not to enter it, on the 21st they returned to the mouth of the Niagara river, where they remained some days.

It was about this time that Lieutenant-Colonel Boerstler, with about 700 men, was sent out from Fort George by General Dearborn to attack and disperse that portion of Lieutenant-Colonel Bisshopp's command then in position in a stone house near Beaver Dam. It resulted in the capture of Lieutenant-Colonel Boerstler by the force under Lieut. James Fitzgibbons, and led to the recall of General Dearborn, whose age and ill-health disqualified him from active and enterprising service.

After General Dearborn's departure the command of the army devolved temporarily on General Boyd. Several skirmishes occurred, also considerable picket firing, and occasionally a raid on American territory. One of these raids was made on July 4, by Lieut.-Col. Thomas Clark, who crossed the Niagara river from Chippewa to Schlosser, captured the guard, a large quantity of provisions, one six-pound cannon, several stand of arms and some ammunition, returning safely with the spoils to the Canada side.

*Black Rock Captured and Re-Captured.*  
—The success of this expedition determined Colonel Bisshopp to put into execution a plan against Black Rock. Leaving his headquarters at Lundy's Lane July 10, with about 350 men, he embarked at Chippewa, and before dawn next morning landed unperceived on the American shore a short distance below Black Rock. The block-house there was in charge of less than a

dozen men, and they were taken completely by surprise. In the vicinity were about 200 militia, under Major Adams, who fled to Buffalo. General Porter, who was at Black Rock, narrowly escaped capture, but got away, and followed Adams, on foot, toward Buffalo, until he met Captain Cummings with 100 regulars, who, having heard of the invasion, was advancing toward Black Rock. General Porter took a horse from one of the dragoons, hastened to Buffalo, rallied about one half of Adams' militia, and with these and about fifty volunteer citizens rejoined Cummings. Then with the entire force, including about forty Indians, he hastened back to Black Rock and made an attack upon the invaders at three different points. After a short, but severe, contest, Colonel Bisshopp's force was routed and fled to their boats, leaving nine killed and nearly twenty wounded behind; but the greatest loss sustained by the British was inflicted on them after they had reached their boats, Colonel Bisshopp being mortally wounded; he died five days afterward at Lundy's Lane.

During the remainder of the summer there were frequent skirmishes in the vicinity of Fort George, but no enterprise of importance was undertaken except an attempt to capture the British stores at Burlington Heights toward the latter part of July. Col. Winfield Scott, who had been recently placed in command of a double regiment, was eager to distinguish himself, and volunteered to lead any land force that might be sent to the head of Lake Ontario. Commodore Chauncey appeared at the mouth of the Niagara river about the 27th of July, and on the following day sailed for the head of that lake with 300 land troops under Colonel Scott.

*Toronto (York) Destroyed.*—In the meantime Colonel Harvey was taking measures to prevent the British stores from falling into the hands of the Americans, and had collected so many reinforcements that Chauncey and Scott soon perceived that their force was too small; and being informed that York was in a defenseless condition, on account of troops having been withdrawn to defend the stores at the head

of the lake, sailed away for that place, entering the harbor on the 31st. Colonel Scott landed his troops without opposition, and took possession of the place, burned the barracks, the public store houses and stores and eleven transports, destroyed five pieces of cannon, and bore away one heavy gun and a quantity of provisions. Chauncey and Scott then returned to the Niagara frontier, reaching there August 3. On this day 111 officers and men were sent from the Niagara district to join Commodore Perry on Lake Erie.

*Schooners Julia and Growler Captured.*

—On August 7, four days after Chauncey and Scott had reached the mouth of the Niagara river, Sir James Yeo appeared about six miles to windward. Commodore Chauncey went out to attack Sir James' fleet. The former's squadron then contained one corvette (the Pike), one ship sloop, one brig sloop, and ten schooners, manned by 965 men, and throwing a broadside of 1,390 pounds of shot. Yeo's squadron included two ship sloops, two brig sloops and two schooners, manned by 770 men, and throwing at a broadside 1,374 pounds of shot. All day through the 7th the wind blew light and variable, and the two squadrons went through a series of maneuvers, nominally to bring on an engagement. It was precisely the weather for Chauncey to fight in, if he had any intention of fighting. Next day a heavy gust struck the Hamilton and Scourge, two of Chauncey's squadron, carrying away the heavy guns through the careening of the vessels, and they both foundered and lost all of their men but 16.

Two more days were spent in maneuvering, each leader apparently trying to avoid an engagement, nothing being accomplished by either. On the 10th the same tactics were pursued, when the two squadrons were quite near each other, Yeo to the windward. Roosevelt says: "Commodore Chauncey formed his force in two lines on the port tack, while Commodore Yeo approached from behind and to windward in single column on the same tack. Commodore Chauncey's weather line was formed of the Julia, Growler, Pert, Asp, Ontario and American, in that order, and the lee line,

of the Pike, Oneida, Madison, Tompkins and Conquest. Commodore Chauncey formed his weather line of the smallest vessels, directing them, when the British should engage, to edge away and form to leeward of the second line, expecting Sir James Yeo would follow them down. At 11 the weather line opened fire at very long range; at 11:15 it was returned and the action became general and harmless. At 11:30 the weather line bore up and passed to leeward, except the Julia and Growler, which tacked. The British ship kept their luff and cut off the two that had tacked, while Commodore Chauncey's lee line edged away two points to lead the enemy down, not only to engage him to more advantage, but to lead him from the Julia and Growler. Of course the enemy did not come down, and the Julia and Growler were not saved. Yeo kept on until he had cut off the two schooners and tacked after them. Then, when too late, Chauncey tacked also and stood after him."

The result was that the two schooners Julia and Growler were captured, through an amazing piece of maneuvering. The action was not in any way decisive. The small American schooners soon had to run into Niagara bay to keep from being upset in a strong gale that had sprung up, and Chauncey went with the rest of his squadron down to Sacket's Harbor, where he took on board provisions sufficient for five weeks, and left there on the 13th. Both parties were from that time on for about six weeks of about equal predominance on the lake, and afterward the British squadron was blockaded in port most of the time. The opinion of Roosevelt is that the British commander was determined to fight only in rough weather, while Chauncey was determined to engage only in fine weather, and that the party to leeward invariably ran away to avoid an engagement; and hence it was that each commander persistently represented the other as seeking to avoid a fight.

*Other Minor Engagements.*—The Americans were soon re-inforced by the Sylph, a schooner of 300 tons and 70 men, and carrying four long 32's and six long 6's. On September 11 a partial engagement was

fought at very long range in very light weather near the mouth of the Genesee river. The Americans suffered no loss, while the British lost one midshipman killed and seven wounded. Yeo was too careful about engaging, preferring to steer away from Chauncey, but Chauncey had a great advantage on account of his long guns. He had ten vessels in this engagement, and 98 guns in all. The two squadrons came together again on the 28th of the month in York bay. The wind was fresh from the east. Yeo tacked and stood out into the lake, while Chauncey steered directly for the center. After considerable maneuvering and fighting, in which the Tompkins lost her foremast, and the Wolfe her main topmast and main yard, Commodore Yeo put dead before the wind, crowded all the canvas possible, and ran completely past all the other vessels, which followed him as fast as they could; but the Royal George under command of Captain Mulcaster, ably covered the retreat of the Commodore, and, while the American vessels pursued the fleeing foe, they did not overtake them. The Tompkins lost five men killed or wounded, all the losses that were sustained on the American side; but the British ships, Wolfe and Royal George, suffered heavy losses both in killed and wounded. A Canadian authority states that during the latter days of September an engagement took place near Burlington bay between Commodore Chauncey and Commodore Yeo. The former had five vessels under his command, the latter two, namely the Wolfe and Royal George. This engagement ended in the entire discomfiture of the Americans, and they again retired to Niagara.

Yeo spent most of the remainder of the season blockaded in Kingston; but there was yet one more slight engagement on October 5, when Chauncey, while near False Duck islands, discovered seven British vessels transporting troops. All sail was made after them; one was burned, one escaped and five were captured, namely, the Mary, Drummond, Lady Gore, Confiance and Hamilton, the latter two being the Julia and the Growler under other



names. The vessels captured had each from one to three guns, and they had on board in all 264 men. Taken all in all, while the campaign had not been well managed on either side, yet the Americans on the whole had the advantage on Lake Ontario during the year 1813. York and Fort George had been captured, and the attack by the British on Sacket's Harbor had been repulsed. The Americans had lost two schooners, both of which had been retaken, while the British had one 24-gun ship, nearly ready for launching, destroyed, and one 10-gun brig taken. Other losses on the part of the British were greater than those of the Americans, the latter's heaviest loss being the destruction of the stores at Sacket's Harbor when that place was attacked May 28.

*Expedition against Montreal.*—Preparations were made by the Americans, in the fall of 1813, for an attack on Montreal, and many armed boats and transports were

built at Sacket's Harbor. Orders were issued October 12, and the troops embarked on the 17th, destined for the expedition. The course of the expedition was among islands where the currents were known to but few, and about midnight of that day a strong wind sprang up and scattered the flotilla in all directions. Many of the boats were wrecked and much of the property lost; but on the 20th the boats that were still whole, with a large portion of the troops, arrived at Grenadier island, where most of them remained until November 1, though a portion of them had gone on in advance, October 29, to take position at French creek. Gen. Wade Hampton who was to move down Chateaugay river toward the St. Lawrence, utterly failed to accomplish his part of the expedition, and Wilkinson's army had a severe battle at Chrysler's farm November 11, in which it was defeated, after which the expedition on Montreal was abandoned.

## CHAPTER XII.

### WAR OF 1812, CONTINUED.

UNITED STATES GOVERNMENT BUILDS SIX WAR VESSELS AT ERIE—EQUIPS FOUR MERCHANT SAIL AT BUFFALO—CAPTAIN PERRY APPOINTED COMMODORE—BRITISH FLEET APPEARS AT CLEVELAND—PERRY SAILS FROM ERIE—ENEMY DISCOVERED NEAR PUT-IN-BAY—DR. PARSONS' ACCOUNT OF THE BATTLE—THRILLING SCENES ABOARD THE FLAGSHIP—DIAGRAMS ILLUSTRATING THE MOVEMENTS OF THE FLEETS—PERRY'S OFFICIAL REPORT—BRITISH OFFICIAL ACCOUNT—CREWS OF THE TWO SQUADRONS—CONDUCT OF CAPTAIN ELLIOTT—TRIBUTE TO PERRY—BATTLE HEARD AT CLEVELAND—EFFECTS OF THE BATTLE—CANADIAN ACCOUNT OF THE BATTLE—DESTRUCTION ON THE NIAGARA—FINAL DISPOSITION OF THE VESSELS.

THE UNITED STATES GOVERNMENT was unwilling to concede to the British naval forces undisputed possession of the Upper Lakes, and, during the winter of 1812-13, active preparations were made to equip a squadron for service on Lake Erie. Six vessels, two brigs and four schooners, were constructed at Presque Isle (Erie), and three merchant schooners

and a sloop were purchased at Buffalo, where also lay the brig *Caledonia*, which had been captured by Captain Elliott.

The construction of the gunboats was commenced by Capt. Daniel Dobbins, of Erie. He had been master and part owner of the merchant schooner *Salina*, which had been taken by the British at Mackinaw. Returning home at Erie, after many

narrow escapes, he was immediately dispatched by General Meade to Washington, with the first official account of the surrender of Mackinaw and Detroit. Having navigated the lakes many years in trading-vessels, he was well acquainted with their shores and harbors, and the few inhabitants on both sides of the lakes.

After a few days' examination before the Cabinet at Washington, in regard to the commerce and shipping, and the most suitable plan for a naval depot, the government, in accordance with his recommendation, selected Erie for its proposed ship-yards. Captain Dobbins was tendered a sailing-master's warrant, and ordered to proceed to that port, and commence the construction of gunboats, and to apply to Commodore Chauncey, on Lake Ontario, for further instructions.

On the 26th of September, he commenced the work with such house-carpenters and others as he could collect, being able to procure but one ship-carpenter for master-builder, Ebenezer Crosby, of Black Rock. The iron, cordage and other necessary materials had to be transported from Pittsburg, over bad roads. There were then no mills for sawing lumber, only the standing trees for material, a condition of things that would appall a modern ship builder.

The vessels were built on Cascade creek, about a mile above Erie, where the depth of water was greater than at the village. The place is now known as Reed's Dock.

In December, Commodore Chauncey, accompanied by Henry Eckford, the naval architect, arrived at Erie, from Lake Ontario, and finished the draughts of the two twenty-gun brigs, and left instructions for getting out the timbers for them, and for more gunboats. Noah Brown, chief master-builder, arrived at Erie in February, 1813, from New York, with a gang of twenty-five carpenters. A month later the naval officer, who won undying fame on Lake Erie, arrived on the scene.

*Capt. Oliver Hazard Perry*, of Rhode Island, was an active and zealous young officer during the war of 1812. In November of that year, he offered his services for

the lakes, and was sent for by Commodore Chauncey, whom he met at Albany on the 28th of that month, and not long afterward he was ordered to proceed to Presque Isle, now Erie, and to hasten the equipment there of the little squadron, then in course of construction. The bay at Erie was completely landlocked, its only entrance being too shallow for large vessels to enter, but quite deep enough for gunboats to get out into the lake. Captain Dobbins was appointed sailing master in the middle of September, 1812, and was instructed by the government to begin the construction of gunboats at Erie. On December 12, he informed the department that he had two of the gunboats—50 feet keel, 17 feet beam and 5 feet depth of hold—on the stocks, and would have all ready by the time the ice was out of the lake.

Commodore Perry arrived at Erie, March 27, 1813, much work having in the meantime been done. Forest trees had been felled and hewn, the keels of two twenty-gun brigs and a clipper schooner had been laid at the mouth of Cascade creek; two gunboats were nearly planked at the mouth of Lee's run, and a third, afterward named the *Scorpion*, had been commenced. Early in May the three smaller of these vessels were launched, and on the 24th of the same month the two brigs were afloat. On the 23d Perry left Erie to join Commodore Chauncey in the successful attack on Fort George, as related in the preceding chapter.

In the meantime the little flotilla in the Scajaquada was being prepared for the coming engagement, under the eye of Master Builder Eckford. These vessels had been unable to get out because Fort Erie was in the possession of the British. They were laden with stores at the Black Rock navy yard, and on the morning of June 6, oxen, seamen and 200 soldiers with strong ropes commenced "tracking" them up over the rapids at the head of the Niagara river, a task of great difficulty, requiring six days for its performance. These vessels were the *Caledonia*; the schooner *Somers*, formerly the *Catherine*; the schooner *Amelia*, carrying one long 18-pound gun; the schooner-

er Ohio, carrying one long 24, and the sloop Trippe, formerly the Contractor, carrying one long 18. This flotilla sailed from Buffalo on the 13th and reached Erie on the 18th, a portion of the time moving "at the rate of twenty-five miles in twenty-four hours," on account of head winds. They reached Erie just in time to avoid the little cruising squadron of the enemy under Captain Finnis of the Royal Navy, on the lookout for them. This cruising squadron consisted of the Queen Charlotte, 17 guns; the fine schooner, Lady Prevost, 13 guns; the brig Hunter, 10 guns; the schooner, Little Belt, three guns, and the Chippewa, one gun.

The six vessels built at Erie were the two twenty-gun brigs Lawrence and Niagara, and the schooners Scorpion, Tigris, Porcupine and Ariel. All the guns and a great part of the supplies had to be brought from New York and Philadelphia. The ship carpenters also came mostly from New York.

*British Fleet Appears at Cleveland.*—The British fleet continued to cruise in Lake Erie. Its only appearance at Cleveland has thus been related by an early historian of that city: The British fleet, consisting of the Queen Charlotte and Lady Prevost with some smaller vessels, appeared off Cleveland, June 19, 1813, and approached the mouth of Cuyahoga river with the apparent intention of landing. Major Thomas S. Jessup, of the regular army, who had been in charge of supplies there, had left, but expresses were sent out to rally the militia, and as soon as possible every man in the vicinity was hastening with musket on his shoulder toward the endangered locality.

When the fleet had arrived within a mile and a half of the harbor, the historian of Cleveland relates, the wind sank to a perfect calm, and the vessels were compelled to lie there until the afternoon. Meanwhile, the little band of regulars made every preparation to defend their post, and a considerable body of militia was arrayed near by. There was a small piece of artillery in the village, but it was unmounted. Judge James Kingsbury, at that time a paymaster

in the army, took the hind wheels of a heavy wagon, mounted the little cannon on them, after a fashion, and placed it in position to pour its volleys into the enemy's ranks if he should attempt to land. The vessels in the Cuyahoga; and the public stores, were all, as far as possible, moved to "Walworth Point," some two miles up the river.

At length the calm ceased, but a terrific thunder storm sprang up in the west and swept furiously down the lake; the little fleet was driven before it far to the eastward, relieving the Clevelanders of all fear of an attack, at least for that day.

When the storm abated, the fleet lay to, opposite Euclid creek, in the town of that name, where a boat's crew went ashore. They killed an ox, cut it up, hide and all, and took it on shipboard. With more courtesy than could have been expected, however, they left a golden guinea in a cleft stick at the place of slaughter, with a note apologizing, because in their haste they had to spoil the hide, and adding that, if it had not been for the thunder shower they would have eaten their beef in Cleveland. They sailed off down the lake, and their vessels never again appeared on the shore of Cuyahoga county, except as the captured spoils of the gallant Perry and his comrades.

Commodore Perry's fleet was ready by July 10, but, as he had only men enough to man one of the brigs, he was compelled to remain idle in the Erie harbor for five or six days. His flag ship was named the Lawrence on the 12th, in honor of the commander of the Chesapeake, then recently captured by the Shannon on the Atlantic ocean. The British squadron, that blockaded Perry's fleet, was in command of Capt. Robert Heriot Barclay, who was having built at Amherstburg a 20-gun ship, afterward named the Detroit. On August 2, Captain Barclay disappeared, and Perry at one hurried everything forward. On the 4th the Lawrence was towed to that portion of the bar, where the water was deepest. Her guns were taken out and placed on land, and, thus lightened, she was got over the bar by means of "camels." The



Niagara was taken over the bar in the same way, and the smaller vessels were got into deep water without difficulty.

*Fleet Sails from Erie.*—Just as the Niagara was moving into deep water on the 5th, Captain Barclay's squadron re-appeared and the Ariel and Scorpion were sent out to engage and detain him. On the same evening Perry's fleet stood toward Long Point on its first cruise, and cruised between Erie and Canada two or three days searching for the enemy, who had gone to Malden to await the completion of the Detroit. August 9, Capt. Jesse D. Elliott joined the squadron with about 100 men, manned the Niagara and took command of her. Commodore Perry then resolved to sail up the lake, all his vessels going up with him except the Ohio, the fleet soon afterward putting into Put-in-Bay. Perry from this time on until the memorable 10th of September, made reconnaissances in the western end of the lake, with the view of finding the enemy and bringing him to battle, but in vain; but at length on the 9th Commodore Barclay, becoming short of provisions, put out from Amherstburg, feeling that he must risk a battle, if necessary.

The Ottawa, a small schooner, taken from the United States early in the war, at Maumee, was employed at Malden as a tender or lookout vessel, while the British were preparing for a conflict with Perry. She took a peep into Put-in-Bay to reconnoitre, and unexpectedly found herself near the squadron. Captain Champlain chased her, in the Scorpion, and would have caught her, but his schooner ran aground and allowed the Ottawa to escape.

On the morning of the 10th the stirring cry, "Sail ho!" rang out from the masthead of the Lawrence, this cry being soon followed by signals to the fleet: "Enemy in sight," and "Get under way!" At sunrise the British vessels were all seen upon the northwest horizon.

*The Two Fleets.*—Commodore Barclay's squadron, according to Roosevelt, was composed of the following vessels, with their tonnage, crew and armament:

NAME	RIG	TON- NAGE	CREW	ARMAMENT
Detroit .....	Ship	490	150	1 long 18 2 " 24's 6 " 12's 8 " 9's 1 short 24 1 " 18
Queen Charlotte ..	"	400	126	1 long 12 2 " 9's 14 " 24's 1 " 9
Lady Prevost..	Schooner	230	86	2 " 6's 10 short 12's 4 " 6's 2 " 4's 2 " 2's
Hunter .....	Brig	80	45	2 " 12's 1 long 9 1 " 12 2 " 6's
Chippewa ....	Schooner	70	15	
Little Belt ...	Sloop	90	18	
Six Vessels...		1,460	440	63 guns

Commodore Perry's squadron, according to the same authority, in this battle was as follows:

NAME	RIG	TON- NAGE	CREW	ARMAMENT
Lawrence ...	Brig	480	136	2 long 12's 18 short 32's
Niagara .....	"	480	155	2 long 12's 18 short 32's
Caledonia ...	"	180	53	2 long 24's 1 short 32
Ariel .....	Schooner	112	36	4 long 12's 1 long 32
Scorpion .....	"	86	35	1 short 32 1 long 24 1 short 32
Somers .....	"	94	30	1 long 32 1 short 32
Porcupine....	"	83	25	1 long 32
Tigris .....	"	96	27	1 " 32
Trippe.....	Sloop	60	35	1 " 24
Nine Vessels..		1,671	532	54 guns

*Dr. Parsons' Account of the Battle.*—One of the best accounts of the battle, as seen from the flagship Lawrence, has been given by Dr. Parsons, surgeon's mate of the fleet and the only medical officer aboard. Dr. Parsons says: "At sunrise there was a cry from the masthead, 'Sail ho!' All hands sprang from their berths. and ere we could dress and reach the decks the cry was repeated again and again, until six sail were thus announced. Signal was made to the fleet, 'Enemy in sight. Get under way,' and the hoarse voice and shrill

pipe of the boatswain resounded through all the ships, 'All hands, up anchor.'

"The wind at this time was from the southwest, light and baffling, which prevented our weathering the island in our way, and it continued so until 10 o'clock, when it veered to the southeast, which enabled us to clear the island and stand out upon the lake. We now discovered the English squadron, five or six miles to the leeward, hove to in a line, and equidistant about half a cable's length. The vessels were freshly painted, and, with the morning sun shining upon their broadsides, and their red ensigns gently unfolding to the breeze, they made a very gallant appearance. Our squadron bore down to engage them, with the wind on our larboard quarter. They were arranged with the Chippewa, of one long eighteen-pounder on a pivot head; the Detroit, of nineteen guns, bearing the broad pennant of the Commodore, next; the Hunter, of ten guns, the third; the Queen Charlotte, of seventeen guns, fourth; the Lady Prevost, of thirteen guns, fifth; and the Little Belt, of three guns, sixth.

"Captain Perry immediately arranged his line of battle, with his own ship to fight the Detroit, broad pendant against broad pendant, Commodore against Commodore. Two gunboats, the Ariel and Scorpion, ranged ahead on our larboard bow, a little out of a straight line. The Caledonia, of three long twenty-four-pounders, came next, after the Lawrence, to encounter the Hunter; the Niagara next to fight the Queen Charlotte; and the Somers, Porcupine, Tigris and Trippe to encounter the Lady Prevost and Little Belt. Thus arranged, the fleet moved on to attack the enemy, distant at 10 o'clock about four or five miles. The Commodore next produced the burgee, or fighting flag, hitherto concealed in the ship.

"It was inscribed with large white letters on a blue ground, that could be read throughout the fleet, 'DON'T GIVE UP THE SHIP,' the last words of the expiring Lawrence, and now to be hoisted at the masthead of the flagship bearing his name. A spirited appeal was made to the crew assembled upon the quarter-deck, who re-

turned three hearty cheers, that were repeated along the whole line of our vessels, and up went the flag to the top of the fore-mast.

"The Commodore brought me a package of papers, having a piece of lead attached to them, and gave orders, in the event of his falling, to throw the papers overboard; they were instructions from government and letters from Mrs. Perry. The grog ration being served out, drums and fife struck up the thrilling air, 'all hands, all hands, all hands to quarters,' calling all to their respective stations.

"The Commodore was on the quarter-deck with two young officers, Thomas Breeze and his own brother, Alexander Perry, whose duty it was to run with his orders to every part of the ship, for in the din and uproar of battle no officer can be heard ten feet off. The hatches were now closed, excepting a small aperture ten inches square, through which powder cartridges were to be passed up from the magazine by boys, nimble of foot, during the battle, and through which light was admitted into the surgeon's room, where the wounded were to be brought. The floor of this apartment was on a level with the surface of the water outside, and consequently the wounded were as much exposed to the enemy's cannon balls as if they were on deck. Six men were directed to bring the wounded below, and to assist the surgeon in moving them.

"Every preparation being made, and every man at his post, a profound silence reigned for more than one hour, the most trying part of the whole scene. It was like the stillness of the atmosphere that precedes the hurricane, while the fleet moved on steadily till a quarter before meridian, when the awful suspense was relieved by a cannon shot, aimed at us from the flagship Detroit, one mile distant. It was like an electric shock, and was soon followed by another. The two gunboats ahead of us now fired one or two long guns.

"At this time the Ariel, Scorpion, Lawrence, Caledonia and Niagara were all in their respective stations in the order they are named, distant from each other about half a cable's length. The other vessels,

not sailing quite so well, were a little out of their stations astern. At ten minutes before twelve fire was opened from all the long guns of the enemy. At five minutes before meridian the *Lawrence*, beginning to suffer, returned the fire from her long bow gun, a twelve-pounder, when the two gunboats ahead were ordered by trumpet to commence the action, and the *Caledonia* and *Niagara* astern opened their fire with their long guns. The sternmost vessels soon after opened also, but at too great a distance to do much injury.

"Perry, finding himself not sufficiently near to do much execution with his carronades, made all sail again, and ordered the word to be passed by trumpet to the vessels astern. The order was responded to, and was transmitted along the line by Captain Elliott of the *Niagara*, whose vessel was stationed next but one astern of the *Lawrence*. But the *Niagara* did not make sail with the *Lawrence* and accompany her down into close action as ordered, but continued her long shot with two bow guns (having shifted the left one over to the starboard side).

"Perry pressed on, and, supposing himself near enough, fired his forward carronades, but finding they did not tell, he pressed on still nearer, suffering terribly, and, getting near enough for execution, he opened a rapid and most destructive fire upon the *Detroit*. The *Scorpion* and *Ariel* ahead were not deemed worthy of the enemy's aim, yet those small vessels, having heavy cannon, fought nobly and with great effect. The *Caledonia* astern followed the *Lawrence* into close action against her antagonist, the *Hunter*. But the *Niagara*, which, when the battle began, was within hail of the *St. Lawrence*, did not follow her down toward the enemy's line, so as to encounter her antagonist, the *Queen Charlotte*, but hung back for two hours. The *Queen* was expecting it, but, as her antagonist did not come up, she shot ahead to fire upon the *Lawrence*, and in so doing she passed the *Hunter*, that had been ahead between her and the *Detroit*. After a lapse of two hours Elliott filled his sails and came up; the *Caledonia* moved on

toward the *Hunter*, which had now dropped astern and to the leeward of the *Queen*. Elliott, in order to approach the *Queen*, must pass the *Caledonia*, which he did to the windward or outside of her, and was approaching the *Lawrence*, which, however, was crippled and was dropping astern, a perfect wreck. Elliott then, instead of passing directly down to engage the *Queen*, luffed to the windward, to go round and outside of the *Lawrence*, and while abreast of her larboard beam and nearly half a mile distant, Perry left the *Lawrence* for the *Niagara*, in a boat, and boarded her when she had reached a little ahead of the *Lawrence* on her larboard bow.

"When Commodore Perry left the *Lawrence* there were but himself, his little brother and fourteen men alive and unhurt on board. He jumped into the boat with eight stout seamen at the oars, and put off at thirty minutes after two. He stood erect in the stern of the boat, and the British saw it as, with the zealous men at the oars, the little craft sprang away like a race horse. A shower of grape, cannister and bullets flew about him, but he heeded them not till, at the entreating tears of his crew, he finally sat down, and quickly the boat reached the *Niagara*.

"His last words to Lieutenant Yarnall were 'I leave it to your discretion to strike or not, but the American colors must not be pulled down over my head to-day.' Soon after Perry left the *Lawrence* she fell astern. Yarnall consulted with Forest and Taylor. There were no more guns that could be used, and, if there had been, there were no men to handle them. To hold out was to expose life recklessly. Officers and men watched the progress of their commander, and soon after he had gained the new battleship the colors of the *Lawrence* were struck."

The eminent American historian, George Bancroft, thus describes the reception of the Commodore on the *Niagara*: "Meantime, Perry climbed the gangway of the *Niagara*, and the superior officer, whom Elliott had thought to be dead, stood before him, radiant with the indomitable purpose of winning the day; with his forti-



tude unimpaired by the crowded horrors of his last two hours; black with the smoke of battle, but unscathed, with not so much as a wound of his skin; with not a hair of his head harmed. His quick eye glanced at the ship's rigging, at her hale crew that thronged the deck, and his buoyant nature promised him a harvest of glory as he beheld the Niagara 'very little injured,' even 'perfectly fresh,' its crew in the best condition, with scarcely more than three men hurt. Elliott's mind was stunned, and completely dumbfounded; he asked the foolish question: 'What is the result on board your brig?' though he had seen the brig was a disabled wreck, and had even thought that Perry had fallen. 'Cut all to pieces!' said Perry, whose mind had instantly condemned the course in which Elliott was steering, and was forming his plan for redeeming the day. 'I have been sacrificed!' he added; but he checked all reproach of Elliott, and blamed only the gunboats, which had been still further astern. It marks how ill Elliott was at his ease, how much he was struck with shame, how entirely he lost his self-possession, that he caught at the word which seemed to relieve him from censure, and at once offered to go and bring up the gunboats. 'Do so,' said Perry, for Elliott had anticipated his wish, and proposed what was best for both. At this Elliott, the second officer in the squadron, whose right it would be to take the chief command if Perry should be wounded, left his own brig, and went in the boat on the paltry errand fit only for a subordinate, to bear a superfluous message to the gunboats, which under their gallant officers, were advancing as fast as possible."

Perry ran up his pennant and hoisted the signal for close action. Loud cheers resounded from every vessel in the squadron. It was now forty-five minutes after two o'clock. Under press of sail, the gallant Commodore bore down upon the British line, now half a mile distant. Commodore Barclay, of the Detroit, when he saw the new spirit animating the Niagara, and another contest imminent, attempted to veer around to give the new enemy a broadside,

but in doing so he had fallen upon the Lady Charlotte.

Breaking through the enemy's line between the Hunter and the Detroit at half pistol shot, Perry from all his guns, double shotted with round, grape or cannister, poured his broadsides into these devoted vessels, raking the Lady Prevost with his broadside port and the entangled Detroit and Queen Charlotte with his full starboard broadside. Commodore Barclay went down with a desperate wound. Many shrieks told of the destruction the guns had wrought. The decks of the Lady Prevost were swept, and Perry luffed athwart the bows of the Detroit and Lady Charlotte, now clear of each other. Meanwhile the Somers, in command of Elliott, with the Tigris and Porcupine, were pressing down upon the Lady Charlotte, which, finding herself exposed ahead and astern, was the first to strike. The Detroit, now unmanageable, also gave up, and the Lady Prevost and Hunter, both disabled, pulled down their colors. The Little Belt, at the head, and the Chippewa, at the rear of the line, made all sail and ran, but the Scorpion and Trippe pursued, and, after a close chase, took and brought them back. The victory was complete; not a sail of the enemy escaped.

*Scenes Aboard the Flagship.*—In describing his own part in the battle and the incidents in relation to his active duties Dr. Parsons says: "The wounded began to come down before the Lawrence opened her battery, and for one I felt impatient at the delay. In proper time, however, as it proved, the dogs of war were let loose from their leash, and it seemed as though heaven and earth were at logger heads. For more than two long hours, little could be heard but the deafening thunders of our own broadsides, the crash of balls dashing through our timbers, and the shrieks of the wounded. These were brought down faster than I could attend to them, farther than to stay the bleeding, or support the shattered limbs with splints, and pass them forward upon the berth deck. Two or three were killed near me, after being wounded. I well remember the complaints that the

Niagara did not come up. 'Why does she hang back so, out of the battle?' Among those early brought down was Lieutenant Brooks, son of the late Governor Brooks, of Massachusetts, a most accomplished gentleman and officer, and renowned for personal beauty. A cannon ball had struck him in the hip; he knew his doom and inquired how long he should live; I told him a few hours. He inquired two or three times how the day was going, and expressed a hope that the Commodore would be spared. But new comers from deck brought more and more dismal reports until finally it was announced that we had struck. In the lamentations of despair among the wounded, I lost sight of poor Brooks for a few minutes, but when the electrifying cry was heard that the enemy's two ships had struck, I rushed on deck to see if it were true, and then to poor Brooks to cheer him, but he was no more—he was too much exhausted by his wounds to survive the confusion that preceded this happy transition.

"When the battle had raged an hour and a half I heard a call for me at the small skylight; and slipping toward it, I saw it was the Commodore, whose countenance was as calm and placid as if on ordinary duty. 'Doctor,' said he, 'send me one of your men,' meaning one of the six that were to assist me, which was done instantly. In five minutes the call was repeated and obeyed, and at the seventh call I told him he had them all. He asked if any could pull a rope, when two or three of the wounded crawled upon the deck to lend a feeble hand in pulling at the last guns.

"When the battle was raging most severely, Midshipman Lamb came down with his arm badly fractured; I applied a splint and requested him to go forward and lie down; as he was leaving me, and while my hand was on him, a cannon ball struck him in the side, and dashed him against the other side of the room, which instantly terminated his sufferings. Charles Pohig, a Narragansett Indian, who was badly wounded, suffered in like manner.

"There were other incidents that were less painful to witness. The Commodore's dog had secreted himself in the bottom of

the closet containing all our crockery. A cannon ball passed through the closet, and smashed crockery and door, covering the floor with fragments. The dog set up a barking protest against the right of such an invasion of his chosen retirement.

"Lieutenant Yarnal had his scalp badly torn, and came below with the blood streaming over his face; some lint was hastily applied and confined with a large bandanna, with directions to report himself for better dressing after the battle, and he insisted on returning to the deck. The cannon balls had knocked to pieces the hammocks, stowed away on deck, and let loose their contents, which were reed or flag tops, that floated in the air like feathers and gave the appearance of a snow storm. These lighted upon Yarnal's head, covered with blood, and, on coming below with another injury, his bloody face, covered with the cat-tails, made his head resemble that of a huge owl. Some of the wounded roared out with laughter, that the devil had come for us.

"The hard fighting terminated about three o'clock. As the smoke cleared away the two fleets were found completely mingled, the small vessels astern having come up to the others. The shattered Lawrence, lying to the windward, was once more able to hoist her flag, which was cheered by a few feeble voices on board, making a melancholy sound compared with the boisterous cheers that preceded the battle.

"After four o'clock a boat was discovered approaching the Lawrence. Soon the Commodore was recognized in her, who was returning to resume the command of his tattered ship, determined that the remnant of her crew should have the satisfaction of witnessing the formal surrender of the British officers. It was a time of conflicting emotions when he stepped upon deck; the battle was won and was safe, but the deck was slippery with blood, and strewn with the bodies of twenty officers and men, some of whom had sat at table with us at our last meal, and the ship resounded everywhere with the groans of the wounded. Those of us who were spared, and able to walk, met him at the gangway

to welcome him on board, but the salutation was a silent one on both sides; not a word could find utterance."

*Diagrams of the Battle.*—The three diagrams, printed herewith, illustrate the successive stages of the battle. They are taken from Burges' "Battle of Lake Erie," with accompanying explanations.

Diagram 1 represents the position of the two fleets at the commencement of the action. The arrow indicates the course of the wind, which was from the southeast. The fleets were headed westward.

#### AMERICAN SQUADRON.

1. The schooner Scorpion, Sailing Master Champlin.
2. The schooner Ariel, Lieutenant Packett.
3. The Lawrence, Captain Perry.
4. The Caledonia, Lieutenant Turner.
5. The Niagara, Captain Elliott.
6. The schooner Somers, Sailing Master Almy.
7. The schooner Porcupine, Midshipman Smith.
8. The Tigris, Lieutenant Conklin.
9. The sloop Trippe, Lieutenant Stevens.

#### BRITISH SQUADRON.

- a. Sloop Little Belt.
- b. The ship Detroit.
- c. The brig Hunter.

- d. The Queen Charlotte.
- e. The schooner Lady Prevost.
- f. The schooner Chippewa.

Diagram 2 represents the position of

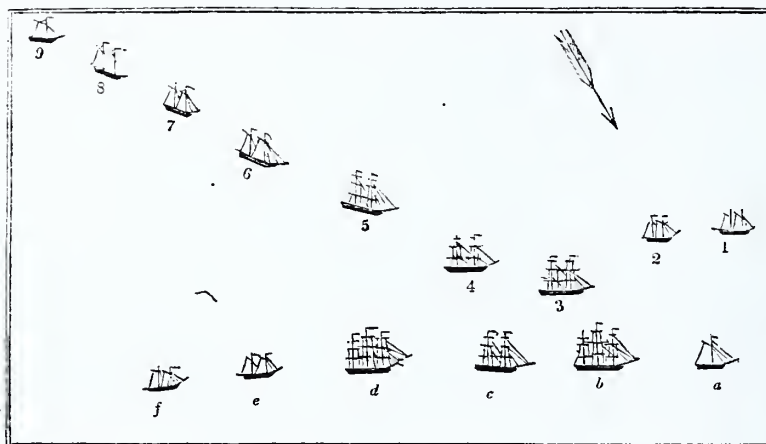


DIAGRAM 1. BATTLE OF LAKE ERIE.

each ship at the moment when Perry left the Lawrence, in his boat for the Niagara.

1 and 2 are the Scorpion of two guns, and Ariel of four guns, contending with the Little Belt of three guns, and the Hunter of ten guns. The Hunter, early in the action, had left her position in the line, between the Detroit and the Queen Charlotte, and pressed forward to the support of the Little Belt.

3. The position of the Lawrence at the moment when Perry left her, in her disabled state, for the Niagara. The former lay in an unmanageable wreck, and as the fleet moved slowly forward, during the action, under easy sail, she dropped to windward, and, at the close of the engagement, was in the position in which she is represented in Diagram 3.

4. The Caledonia of four guns, which had pressed forward to the aid of the Lawrence, in her unequal contest with the Detroit and the Queen Charlotte.

5. The Niagara at the moment when Perry left the Lawrence to board her. The dotted line from 6 to 5, will show the course of her steering from the time she left her place in the line till the command of her was assumed by Perry. The dotted line from her bow, through the line of the British fleet, will show her course after Elliott left her.

6. The Somers, of which Captain Elliott took the command toward the close of the action, after leaving the Niagara and rowing down the Trippe.

7, 8 and 9. The Porcupine, Tigris and Trippe.

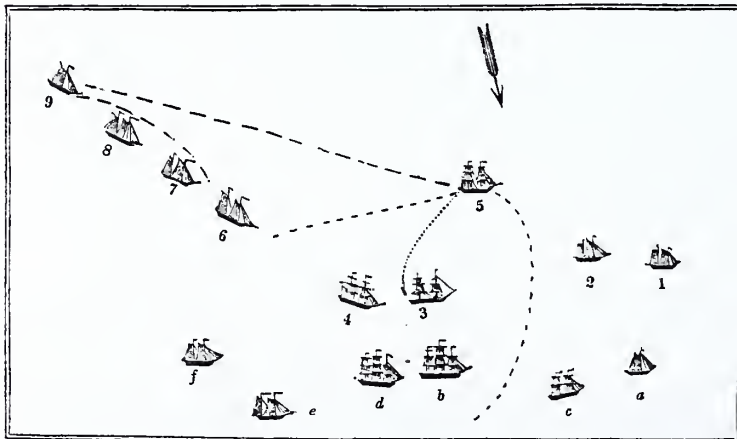


DIAGRAM 2. BATTLE OF LAKE ERIE.



The dotted line from 5 to 9 and from 9 to 6, represents the route of Captain Elliott in his boat, after he left the Niagara to go down the line and bring up the small vessels to the windward. He passed down the line to the Trippe, thence along the line of schooners to the Somers, of which he took the command and brought her into action at near the close of the battle.

The dotted line from 3 to 5, exhibits the direction of Captain Perry's boat in passing from the Lawrence to the Niagara. As the Lawrence fell to the rear immediately after he left her, his boat was exposed to the full broadside of the enemy.

The other dotted line will exhibit the course of the Niagara while under the command of Elliott, and afterward under that of Perry, as explained above.

#### BRITISH FLEET.

- a. The Little Belt.
- b. The Detroit.
- c. The Hunter, which had left her place in line, astern of the Detroit, and took station in advance of her.
- d. The Queen Charlotte, which had passed forward and united her force with the Detroit, for the destruction of the Lawrence, after she discovered the Niagara had avoided an encounter with her.
- e. The Lady Prevost, which had been injured in her rudder and fallen out of line.
- f. The Chippewa.

Diagram 3 represents the position of the vessels of both fleets at near the close of the action, while Perry, in the Niagara, was pressing through the enemy's line, pouring one broadside into the Hunter, on his larboard side, and the other into the Detroit and Queen Charlotte, from the starboard guns.

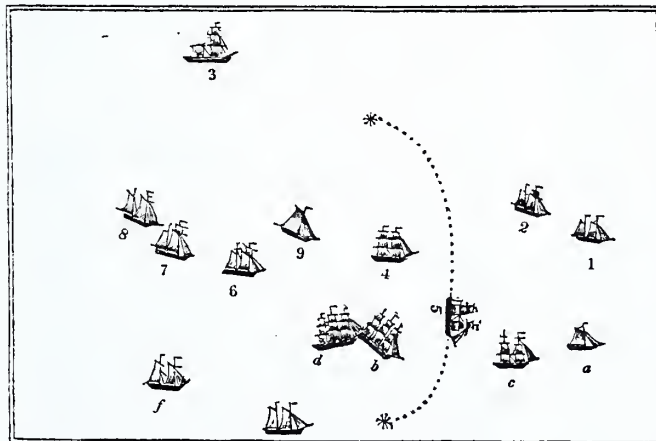


DIAGRAM 3. BATTLE OF LAKE ERIE.

#### AMERICAN FLEET.

- 1 and 2. The Scorpion and Ariel, in the position which they had maintained throughout the action.
3. The Lawrence, which had dropped to the windward, after Perry left her.

4. The Caledonia, which had pressed forward and taken the place of the Lawrence, after the latter had fallen out of the battle.

5. The Niagara, under the command of Perry, bearing down through the enemy's line, and in this position, with all her guns double shotted, she raked the Detroit, Queen Charlotte and Lady Prevost with her starboard guns, and brought down the flags of the two ships; and with her larboard guns silenced the Hunter. She then rounded to, and silenced the Lady Prevost, and thus terminated the conflict.

6. The Somers, under the command of Elliott, pressing up to close quarters, at near the termination of the action.

7 and 8. The Porcupine and Tigris, which were unable to get into action.

9. The Trippe, which had gallantly pushed forward with her single 32-pounder, to the support of the Caledonia, after the latter had taken the place of the Lawrence.

The dotted lines indicate the course of the Niagara, under the command of Perry. The wind remained in the same quarter as at the commencement of the action.

#### BRITISH FLEET.

a. The Little Belt, which, after the Hunter had struck, attempted to escape, but was pursued and taken by the Scorpion, Lieutenant Champlin.

b. The Detroit, attempting to wear, to avoid the Niagara's raking broadside, and by that movement became entangled with the Queen Charlotte.

c. The Hunter, which surrendered after receiving the raking fire of the Niagara, as she passed her.

d. The Queen Charlotte afoul of the Detroit. In this situation both ships surrendered.

f. The Chippewa, which, after the surrender of the other vessels, crowded all sail and fled, but was pursued and captured.

*Perry's Official Report.*—Immediately after the battle Perry wrote and dispatched the following message to General Harrison: "Dear General:—We have met the enemy and they are ours; two ships, two brigs, one schooner and one sloop," adding in a postscript, "Send us some soldiers to help take care of the prisoners, who are more numerous than ourselves."

To the Secretary of the Navy at the same time Perry addressed the following report, "It has pleased the Almighty to give to the United States a signal victory over their enemy on this lake. The British

squadron, consisting of two ships, two brigs, one sloop and one schooner, have this moment surrendered to the squadron under my command, after a sharp conflict."

Several days later he transmitted to Washington a detailed account of the engagement as follows:

UNITED STATES SCHOONER ARIEL,  
PUT-IN-BAY 13th SEPTEMBER, 1813.

SIR:

In my last I informed you that we had captured the enemy's fleet on this lake. I have now the honor to give you the most important particulars of the action. On the morning of the 10th inst. at sunrise, they were discovered from Put-in-Bay, where I lay at anchor with the squadron under my command. We got under way, the wind light at S. W. and stood for them. At 10 A. M. the wind hauled to S. E. and brought us to windward: formed the line and brought up. At fifteen minutes before 12, the enemy commenced firing; at 5 minutes before 12, the action commenced on our part. Finding their fire very destructive, owing to their long guns, and its being mostly directed to the Lawrence, I made sail, and directed the other vessels to follow, for the purpose of closing with the enemy. Every brace and bow-line being shot away, she became unmanageable, notwithstanding the great exertions of the Sailing Master. In this situation she sustained the action upwards of two hours, within canister shot distance, until every gun was rendered useless, and a greater part of the crew either killed or wounded. Finding she could no longer annoy the enemy, I left her in charge of Lt. Yarnall, who, I was convinced, from the bravery already displayed by him, would do what would comport with the honor of the flag. At half past 2, the wind springing up, Captain Elliott was enabled to bring his vessel, the Niagara, gallantly into close action; I immediately went on board of her, when he anticipated my wish by volunteering to bring the schooners, which had been kept astern by the lightness of the wind, into close action. It was with unspeakable pain that I saw, soon after I got on board of the Niagara, the flag of the Lawrence come down, although I was perfectly sensible that she had been defended to the last, and that to have continued to make a show

of resistance would have been a wanton sacrifice of the remainder of her brave crew. But the enemy was not able to take possession of her, and circumstances soon permitted her flag again to be hoisted. At 45 minutes past 2, the signal was made for "Close action". The Niagara being very little injured, I determined to pass through the enemy's line, bore up and passed ahead of their two ships and a brig, giving a raking fire to them from the starboard guns, and to a large schooner and sloop, from the larboard side, at half pistol shot distance. The smaller vessels at this time having got within grape and canister distance, under the direction of Captain Elliott, and keeping up a well-directed fire, the two ships, a brig, and a schooner, surrendered, a schooner and sloop making a vain attempt to escape.

Those officers and men, who were immediately under my observation, evinced the greatest gallantry, and I have no doubt that all others conducted themselves as became American officers and seamen. Lieutenant Yarnall, first of the Lawrence, although several times wounded, refused to quit the deck. Midshipman Forest (doing duty as lieutenant) and Sailing Master Taylor were of great assistance to me. I have great pain in stating to you the death of Lieutenant Brooks, of the marines, and Midshipman Lunt, both of the Lawrence, and Midshipman John Clarke, of the Scorpion; they were valuable officers. Mr. Hambleton, purser, who volunteered his services on deck, was severely wounded late in the action. Midshipman Claxton and Swartwout, of the Lawrence, were severely wounded. On board the Niagara, Lieutenants Smith and Edwards and Midshipman Webster (doing duty as sailing master) behaved in a very handsome manner. Captain Brevoort, of the army, who acted as a volunteer in the capacity of a marine officer on board that vessel, is an excellent and brave officer, and with his musketry did great execution. Lieutenant Turner, commanding the Caledonia, brought that vessel into action in the most able manner, and is an officer that in all situations may be relied on. The Ariel, Lieutenant Packett, and Scorpion, Sailing Mas-

ter Champlin, were enabled to get early into the action, and were of great service. Captain Elliott speaks in the highest terms of Mr. Magrath, purser, who had been dispatched in a boat on service, previous to my getting on board the Niagara; and, being a seaman, since the action has rendered essential service in taking charge of one of the prizes. Of Captain Elliott, already so well known to the government, it would be almost superfluous to speak. In this action he evinced his characteristic bravery and judgment, and since the close of the action has given me the most able and essential assistance.

I have the honor to inclose you a return of the killed and wounded, together with a statement of the relative force of the squadrons. The captain and first lieutenant of the Queen Charlotte and first lieutenant of the Detroit were killed. Captain Barclay, senior officer, and the commander of the Lady Prevost, severely wounded. Their loss in killed and wounded I have not yet been able to ascertain; it must, however, have been very great.

Very respectfully, I have the honor to be, sir, your obedient servant,

O. H. PERRY.

THE HON. WILLIAM JONES,  
Secretary of the Navy.

#### BRITISH OFFICIAL ACCOUNT.

Following is the letter of Captain Barclay, the official British account of the battle:

HIS MAJESTY'S LATE SHIP DETROIT,  
PUT-IN-BAY, LAKE ERIE, SEPTEMBER 12.  
SIR:

The last letter I had the honor of writing to you, dated the 6th instant, informed you, that unless certain intimation was received of more seamen being on their way to Amherstburg, I should be obliged to sail with the squadron, deplorably manned as it was, to fight the enemy (who blockaded the port) to enable us to get supplies of provision and stores of every description; so perfectly destitute of provisions was the port, that there was not a day's flour in

store, and the crews of the squadron under my command were on half allowance of many things, and when that was done, there was no more. Such were the motives which induced Major-General Proctor (whom by your instructions I was directed to consult, and whose wishes I was enjoined to execute, as far as related to the good of the country) to concur in the necessity of a battle being risked, under the many disadvantages which I labored, and it now remains for me, the most melancholy task, to relate to you the unfortunate issue of that battle, as well as the many untoward circumstances that led to that event. No intelligence of seamen having arrived, I sailed on the 9th instant, fully expecting to meet the enemy next morning, as they had been seen among the islands; nor was I mistaken. Soon after daylight they were seen in motion in Put-in-Bay, the wind then at southwest and light, giving us the weather gage. I bore up with them, in hopes of bringing them to action among the islands; but that intention was soon frustrated by the wind suddenly shifting to the southeast, which brought the enemy directly to windward. The line was formed, according to a given plan, so that each ship might be supported against the superior force of the two brigs opposed to them. About ten, the enemy had cleared the islands and immediately bore up, under easy sail, in a line abreast, each brig being also supported by the small vessels. At a quarter before 12, I commenced the action by a few long guns; about a quarter past, the American commodore, also supported by two schooners, one carrying four long 12-pounders, the other a long 32 and 24-pounder, came close to action with the Detroit; the other brig of the enemy, apparently destined to engage the Queen Charlotte, supported in like manner by two schooners, kept so far to windward as to render the Queen Charlotte's 20-pounder caronades useless, while she was, with the Lady Prevost, exposed to the heavy and destructive fire of the Caledonia and four other schooners, armed with heavy and long guns, like those I have already described. Too soon, alas! was I deprived of the services of



the noble and intrepid Captain Finnis, who soon after the commencement of the action fell, and with him fell my greatest support; soon after, Lieutenant Stokes, of the *Queen Charlotte*, was struck senseless by a splinter, which deprived the country of his services at this critical period. As I perceived the *Detroit* had enough to contend with, without the prospect of a fresh brig, Provincial Lieutenant Irvine, who then had charge of the *Queen Charlotte*, behaved with great courage, but his experience was much too limited to supply the place of such an officer as Captain Finnis, hence she proved of far less assistance than I expected.

The action continued with great fury until half-past two, when I perceived my opponent drop astern, and a boat passing from him to the *Niagara* (which vessel was at this time perfectly fresh), the American commodore seeing, that as yet the day was against him (his vessel having struck soon after he left her), and also the very defenseless state of the *Detroit*, which ship was now a perfect wreck, principally from the raking fire of the gunboats, and also that the *Queen Charlotte* was in such a situation that I could receive very little assistance from her, and the *Lady Prevost* being at this time too far to leeward, from her rudder being injured, made a noble, and, alas! too successful an effort to regain it, for he bore up, and supported by his small vessels passed within pistol shot, and took a raking position on our bow; nor could I prevent it, as the unfortunate situation of the *Queen Charlotte* prevented us from wearing; in attempting it we fell on board her; my gallant First Lieutenant Garland was now mortally wounded, and myself so severely that I was obliged to quit the deck. Manned as the squadron was, with not more than fifty British seamen, the rest a mixed crew of Canadians and soldiers, and who were totally unacquainted with such a service, rendered the loss of officers more sensibly felt, and never in any action was the loss more severe; every officer commanding vessels, and their seconds, were either killed or wounded so severely as to

be unable to keep the deck. Lieutenant Buchan, in the *Lady Prevost*, behaved most nobly, and everything that a brave and experienced officer could do in a vessel armed with 12-pound carronades, against vessels carrying long guns. I regret to state that he was severely wounded. Lieutenant Bignal, of the *Dover*, commanding the *Hunter*, displayed the greatest intrepidity; but his guns being small (two four and six-pounders) he could be of much less service than he wished. Every officer in the *Detroit* behaved in the most exemplary manner. Lieutenant Inglis showed such calm intrepidity that I was fully convinced that, on leaving the deck, I left the ship in excellent hands; for an account of the battle after that, I refer you to his letter, which he wrote me for your information. Mr. Hoffmeister, purser of the *Detroit*, nobly volunteered his services on deck, and behaved in a manner that reflects the highest honor on him. I regret to add that he is very severely wounded in the knee. Provincial Lieutenant Purvin, and military officers, Lieutenants Garden, of the *Royal Newfoundland Rangers*, and O'Keefe, of the 41st Regiment, behaved in a manner which excited my warmest admiration; the few British seamen I had behaved with their usual intrepidity, and as long as I was on deck the troops behaved with a calmness and a courage worthy of a more fortunate issue to their exertions.

The weather gave the enemy a prodigious advantage, as it enabled them not only to choose their position, but their distance also, which they did in such a manner as to prevent the carronades of the *Queen Charlotte* and *Lady Prevost* from having much effect; while their long guns did great execution, particularly against the *Queen Charlotte*. Captain Perry has behaved in a most humane and attentive manner, not only to myself and officers, but to all the wounded. I trust that, although unsuccessful, you will approve of the motives that induced me to sail under so many disadvantages, and that it may be hereafter proved that under such circumstances the honor of His Majesty's flag has

not been tarnished. I enclose the list of killed and wounded.

I have the honor to be, etc.,

(Signed) R. H. BARCLAY,  
Commander and late Senior Officer.

The letter of Lieutenant Inglis, which completes the official narrative, is as follows:

HIS MAJESTY'S LATE SHIP DETROIT,  
SEPTEMBER 10.

SIR:—

I have the honor to transmit to you an account of the termination of the late unfortunate battle with the enemy's squadron.

On coming to the quarter deck, after your being wounded, the enemy's second brig, at that time on our weather beam, shortly after took a position on our weather bow to rake us; to prevent which, in attempting to wear, to get our starboard broadside to bear upon her, a number of the guns on the larboard broadside being at this time disabled, we fell on board the Queen Charlotte, at this time running up to leeward of us. In this situation the two ships remained for some time. As soon as we got clear of her, I ordered the Queen Charlotte to shoot ahead of us, if possible; and then attempted to back our fore-top-sail to get astern, but the ship lying completely unmanageable, every brace cut away, the mizen topmast and gaff down, all the other masts badly wounded, not a stay left forward, hull shattered very much, a number of the guns disabled, and the enemy's squadron raking both ships ahead and astern, none of our own in a situation to support us, I was under the painful necessity of answering the enemy, to say we had struck, the Queen Charlotte having previously done so. I have the honor, etc.

(Signed) GEORGE INGLIS.

To CAPTAIN BARCLAY.

*Crews of the Two Squadrons.*—According to an American statement the British commander had 150 men from the Royal Navy, 80 Canadian sailors and 240 soldiers, mostly regulars, and some Indians, making

with their officers a little more than 500 men, of whom at least 450 were efficient. The American crews—of whom about one-fourth were from Rhode Island, one-fourth regular seamen, American or cosmopolitan, about one-fourth raw volunteers from Pennsylvania, Ohio and (chiefly) Kentucky, and about one-fourth blacks—numbered on the muster roll 490; but of these 116 were sick with bilious or "lake" fever, nearly all of whom were too weak to come on deck, so that the efficient force of the squadron was a little less than 400.

The American squadron suffered greatly, but more than two-thirds of the loss was on the Lawrence. She had 22 men killed and 61 wounded; the Niagara had 2 killed and 25 wounded; the Caledonia had 3 wounded; the Somers 2, and the Trippe 3; the Ariel had 1 killed and 3 wounded; and the Scorpion had 2 killed. The total loss was 27 killed and 96 wounded, of whom 3 died.

The British loss, which fell most heavily on the Detroit and the Queen Charlotte, amounted to 41 killed and 94 wounded.

It was aboard the Lawrence, which had borne the brunt of the conflict, that Perry decided the surrender of the several British captains should be formally made, and as they came on board it was necessary for them to pick their way over and among the dead and wounded men who had so nobly contributed to the victory of the day. Perry received them at the stern of his ship, permitting each British officer to retain his sword.

The capitulation having been completed, there was a sad duty to perform to the dead of the two squadrons. During the twilight of that day the bodies of the slain, except those of the officers, were wrapped in rude shrouds, and with a cannon ball at the feet of each were dropped one by one into the calm, blue and peaceful bosom of Lake Erie. Next day at 9 A. M. the two squadrons weighed anchor and sailed into Put-in-Bay harbor, and there, 24 hours afterward, on the margin of South Bass island, three American and three British officers were laid to rest. The American officers were Lieutenant Brooks and Midshipmen Lunt and Clarke, and the British officers

were Captain Finnis and Lieutenants Stokoe and Garland.

Mr. Hambleton, purser of the *Lawrence*, was chosen prize agent, and a board of officers from Lake Ontario, assisted by Henry Eckford, prized the captured squadron at \$225,000. Commodore Chauncey, commander of the vessels on the lakes, received of this sum \$12,750; Perry and Elliott each received \$7,140; each commander of a gunboat, sailing master, lieutenant and captain of marines received \$2,295; each midshipman, \$811; each petty officer, \$447; and each marine and sailor, \$200. Congress voted Perry \$5,000 additional, and also voted thanks and a gold medal to Perry and Elliott, and a silver medal to each of the nearest male relatives of Brooks, Clarke and Claxton (Lunt), who were killed. Three months' extra pay was voted to each of the commissioned officers of the navy and army, who served in the battle, and a sword to each of the midshipmen and sailing masters.

During the 11th of September, the next day after the battle, Commodore Perry visited the wounded *Barclay* on board his ship, the *Detroit*, and treated all his prisoners with the greatest kindness, which was a great surprise to some, especially to a couple of Indians, who had hid themselves to keep out of his way. He then immediately prepared for the transportation of Harrison's troops to Canada, all the wounded Americans being first placed on the *Lawrence* and the wounded British on board the *Detroit* and *Queen Charlotte*. The *Niagara* and the lighter vessels were utilized as transports. On the 13th a furious storm swept over Lake Erie, during which the masts of the *Detroit* fell upon her deck, and the main and mizzen masts of the *Queen Charlotte* also fell. There were then three vessels all helpless, the *Lawrence*, the *Detroit* and the *Queen Charlotte*. All were converted into hospital ships. The *Lawrence* on the 21st sailed for Erie, and was soon followed by the other two. Arriving at Erie on the 23d, the *Lawrence* was greeted by a salute of seventeen guns.

*The conduct of Captain Elliott* in the engagement has been the subject of severe

criticism. In the desire to keep unblemished the American joy at the victory and in the generous impulses of his nature, Perry in his official report had passed lightly over the delinquency of Captain Elliott. But there was common complaint among the officers and men of the other vessels, which gradually reached the ears of the public, and in after years occasioned much controversy. Elliott had a few defenders, among them J. Fenimore Cooper, the novelist, who, in his history of the battle of Lake Erie, gave Elliott chief credit for the victory. But the great mass of writers and readers kept undimmed in their memories the luster of Perry's fame.

The character of Elliott is thus portrayed by George Bancroft in his "*Battle of Lake Erie*": "Elliott was a young man, born the self-same year with Perry, his peer in rank as master-commandant, except that Perry, from having entered the navy in boyhood, was some years his senior in the service. How could he suffer the enemy undisturbed, to fall in numbers on one, whom he should have loved as a brother, whose danger he should have shared, in the brightness of whose glory he should have found new luster added to his own name? Some attributed his delay to fear; but though he had so far one attribute of a timid man, that he was a noisy boaster, his conduct during the day, in the judgment of disinterested observers and critics, acquits him of having been spellbound by downright cowardice. Some charged him with disaffection to his country, from sympathy with family connections in Canada; but this is an imputation justified by no concurrent circumstances, or acts of his earlier or later life. Some thought him blinded by envy, which sews up the eyes with an iron thread, and leaves the mind to hover on an undiscerning wing. He may, perhaps, have been disturbed by that unhappy passion, for a year before he had himself conspicuously won applause near Buffalo, and had then promised himself the command on Lake Erie, to be followed by a victory achieved under his own flag; that very morning, too, his first position had been in the van, but it had been very properly changed for the



very purpose of placing him opposite to the Queen Charlotte. Elliott had inherent defects of character. He wanted the generous impulse, which delights in the fame of others; the delicacy of sentiment, which rejects from afar everything coarse and mean; the alertness of courage, which finds in danger an allurements; the quick perception, that sees the time to strike; the self-possessed will, which is sure to hit the nail on the head. According to his own account, he at first determined to run through the line in pursuit of the Queen Charlotte; and having a fair and sufficient breeze, he directed the weather braces to be manned for that purpose; but he changed his purpose when he observed the Lawrence was crippled and that her fire was slackening; and after a consultation with the purser, Magrath, who was an experienced seaman, he agreed: 'If the British affect the weather gauge, we are gone.' So he kept his place next in line to the Caledonia, which lingered behind, because she was a dull sailor, and, in the light wind, was, moreover, retarded in her movements by the zeal of Turner, her commander, to render service by his armament, which enabled him to keep up an effective fire from the distance. It was a part of Elliott's orders to close with the Queen Charlotte, but he held it to be his paramount duty to keep his place, a half-cable's length behind the Caledonia on the line as designated in the original order of battle, even though the flagship of the squadron might be cut to pieces. So Perry lay exposed to thrice his force, at the distance of fifteen hundred or a thousand feet, aided only by two schooners on his beam and the constant help of the Caledonia."

The same distinguished historian pays this tribute to Perry: "The personal conduct of Perry throughout the 10th of September was perfect. His keenly sensitive nature never interfered with his sweetness of manner, his fortitude, the soundness of his judgment, the promptitude of his decision. In a state of impassioned activity, his plans were wisely framed, were instantly modified as circumstances changed, and were executed with entire coolness and self-possession. The mastery of the lakes, the

recovery of Detroit and the far West, the capture of the British army in the peninsula of Upper Canada, were the immediate fruits of his success. The imagination of the American people was taken captive by the singular incidents of a battle in which everything seemed to have flowed from the personal prowess of one man; and wherever he came the multitude went out to bid him welcome. Washington Irving, the chosen organ as it were of his country, predicted his ever-increasing fame. Rhode Island cherishes his glory as her own; Erie keeps the tradition that its harbor was his shipyard, its forests the storehouse for the frames of his chief vessels, its houses the hospitable shelter of the wounded among his crews; Cleveland graces her public square with a statue of the hero, wrought of purest marble, and looking out upon the scene of his glory; the tale follows the emigrant all the way up the Straits, and to the head of Lake Superior."

There is probably not to be found in the history of naval warfare an instance where the heroism of one man has shown with such transcendent luster over all others as that of Perry in the battle of Lake Erie. After fighting his own ship till 83 out of 101 were killed or wounded, he went to a fresh ship of the same size having only three men injured, took her into the thickest of the fight, and in seven minutes added 22 to the list, making 105 killed or wounded on the decks on which he stood.

The sailors of the Lawrence and Niagara, after the battle, it is related, were never expected to meet peaceably. The following scene was often enacted: An "Elliott" champion would maintain that the wind was light and they could not get up; the "Lawrence" man would allude to "the main top sail to the mast, and the jib brailled up," and immediately a trial of muscle would ensue, and blood flow unless prevented by by-standers.

*Battle Heard at Cleveland.*—The distant boom of the cannon was heard at many points along Lake Erie. The Chronicler at Cleveland gives the following description of the scene at that little village: On the 10th of September, 1813, Levi Johnson

and some of his hired hands were busy putting the finishing work on the rude court house, which he had contracted to build a year before. Some of them heard a noise in the distant west, which was at first supposed to be thunder. Looking up, they were surprised to see no clouds as far as the eye could reach, in every direction. The sounds continued. Suddenly Johnson exclaimed: "Its Perry's guns; he is fighting with the British." In a moment all the workmen by common consent threw down their hammers and nails, scrambled to the ground and hurried to the lake shore with their employer at their head. In a short time all the men of the village, with many of the women and the children, were gathered on the beach, listening to the sounds of battle. The scene of conflict was seventy miles distant, but the listeners could not only plainly hear the roll of the broadside, but when the fire slackened from time to time, could distinguish between the heavier and the lighter guns. At length there was only a dropping fire; one fleet had evidently succumbed to the other. Finally heavy shots were heard, and then all was silent.

"Perry has the heaviest guns," exclaimed Johnson; "those are Perry's shots—he has won the day—three cheers for Perry!" "Hip, hip, hurrah!" promptly responded the crowd, willing to believe the assertion; but yet separating with anxious hearts, uncertain what might be the result. In fact, the English had some as heavy guns as the Americans, but not so many of that class.

Not only in Cleveland, but all along the lake shore, among the scattered inhabitants of Dover, Rockport, Brooklyn and Euclid, the sounds of battle were heard; the people soon divined that it was not thunder, and listened with mingled dread and hope to the deathnotes from the west. Nay, even as far east as Erie, Penn., a hundred and sixty miles from the scene, the sound of the conflict was heard, but merely as a low rumbling, which was supposed to be distant thunder. Soon the welcome news of victory was borne along the shore, and the people freely gave way to their exultation.

*Effects of the Battle.*—As to the con-

sequences of the victory of Perry over Barclay they can hardly be overestimated. The British abandoned all hope of retaining their possessions beyond Lake Erie, and General Proctor was reduced to the necessity of taking immediate measures for a retreat. He at once set about the destruction of Forts Detroit and Malden, and the public buildings in Detroit and Amherstburg, and also all stores that it was impossible to carry away. He then began his retreat toward the Thames, up which his boats had preceded him. On the 27th of the month the American fleet, composed of sixteen vessels of war and upward of 100 boats, received General Harrison's division, and on the same day landed them three miles below Amherstburg, there being probably about 5,000 men in his command. General Proctor had about 1,330 soldiers, including 500 Indians. Harrison's army closely followed Proctor's retreating forces, and defeated them on the Thames.

On October 22, 1813, the *Ariel* sailed into Erie with Harrison and Perry on board, after the battle of the Thames. The *Niagara* arrived on the same evening, and other vessels soon arrived.

#### CANADIAN ACCOUNT OF THE BATTLE.

To the above versions of the battle of Lake Erie is subjoined the following brief Canadian report, taken from a Toronto work: "On September 10, 1813, took place the memorable battle on Lake Erie between the American and British squadrons. The former was under the command of Commodore Perry, U. S. N., the latter under that of Commander Barclay, R. N. Barclay's force consisted of the *Detroit*, flagship, of 19 guns (she was a new vessel, and had only just been put upon the lake); the *Chippewa*, carrying two swivel guns and one long 18-pounder on a pivot; the brig *Hunter*, of 10 guns; the *Queen Charlotte*, 17 guns (she was under the command of Captain Finnis); the *Lady Prevost*, 13; and the *Little Belt*, of three guns. The United States fleet comprised nine vessels, namely: Perry's ship, the *Lawrence*, of 20 guns; the *Scorpion*, 2; the *Caledonian*, 3 (this vessel had previously been captured from the

Canadians); the Niagara, 20; the Ariel, 4; the Trippe, Tigris, Ohio and Porcupine, of one gun each. The Americans had fewer guns than the Canadians, but they were of heavier calibre. Their ships, too, were well manned by nearly 600 picked men of the American merchant service. The Canadians, on the other hand, had only 50 experienced seamen among their six ships, while the rest of the crews were made up of 240 soldiers and 80 wholly untrained volunteer sailors.

"The ships did not come to close quarters until about 11 o'clock in the morning, then for more than four hours the battle continued. For some little time during the earlier part of the engagement the advantage was wholly with the Canadians. The guns from Barclay's ship had not only silenced those of the Lawrence, but also disabled her. Of her crew of 103 men no less than 22 had been killed and 61 wounded. Perry, perceiving his ship was useless, determined to abandon her. Wrapping his commodore's flag around him, he, in an open boat, made for the Niagara, which he reached safely, and was received on deck by her astounded commander, Captain Elliott. The latter, acting upon orders from Perry, put off from his ship in a small boat to bring the other American vessels into action.

"About this time the wind changed, and then was seen how lamentably deficient Barclay was in efficient seamen. His vessels from that cause soon became unmanageable. The Detroit and Queen Charlotte were entangled, and the Lady Prevost was wholly disabled. Barclay, commanding the Detroit, was seriously wounded. Finnis, the captain of the Charlotte, was killed, and all the other officers and three-fourths of the men were killed or wounded. It was not possible for Barclay to continue the fight with any hope of success, and at 3 o'clock in the afternoon his flag was lowered on the Detroit, and the whole fleet capitulated. In this terrible encounter the Americans lost 27 killed and 96 wounded; the Canadians lost 41 killed and 94 wounded. Barclay was paroled at first, then exchanged. Immediately this

was effected he, by the rules of the service, was tried by court-martial for the loss of the ships, the result being that he was fully and honorably acquitted of all blame."

#### DESTRUCTION ON THE NIAGARA.

When General Vincent received intelligence of the defeat of the British on the Thames he concentrated his forces at the head of Lake Ontario, and Proctor with the remnant of his army joined him there, on the 10th. Colonel Scott then placed Fort George in command of General McClure, who sent out foraging parties, which greatly alarmed and annoyed the inhabitants, and General Vincent when appealed to for protection sent about 400 British troops under Colonel Murray and about 100 Indians under Capt. M. Elliott, to drive the foragers away. The Americans were soon driven within their own lines by the British, who took possession of Twelve-Mile Creek (now St. Catharines). General McClure, feeling that his little garrison was in too great danger, resolved to abandon the post and place his garrison in Fort Niagara. He attempted to blow up Fort George, and set fire to the little village of Newark, destroying all the houses in it but one, 150 in all, turning the women and children out into the cold. This was on the 10th of December, and the ground was covered with snow. McClure's men crossed the icy flood of the Niagara while the town was being destroyed.

The British resolved on revenge. On December 18, a cold, black night, Colonel Murray crossed the Niagara with 1,000 men, British and Indians. With about half this force he went down to Fort Niagara, three miles below his crossing place, and there to his amazement found it unprepared for an attack. The fort was partially destroyed, but little resistance being possible. According to American historians Colonel Murray did not exercise any restraint over his troops, and they, in the fell spirit of revenge, put about 60 of the troops to the bayonet, some of whom were invalids. This work being performed on Sunday morning, December 19, Murray's force then plundered and destroyed the little village of



Youngstown, near Fort Niagara. General Riall then crossed the Niagara river at Queenston Heights, sacked and destroyed the town of Lewiston, making it a perfect desolation, and killing at or near the place eight or ten of the inhabitants. His soldiers then pushed on to the little village of Manchester (now Niagara Falls), and then to Buffalo, destroying the entire American side of the river. The town of Buffalo was plundered and destroyed, only four buildings left standing in the place, one of them the jail, another Reese's blacksmith shop, a frame barn, and the residence of Mrs. St. John, who upon the approach of the Indians treated them with kindness. At Black Rock only one building escaped destruction, a log house in which the women and children had taken refuge.

The Ariel, the Little Belt, the Chippewa and the Trippe, all of which had been in the battle of Lake Erie, were committed to the flames. The result was that the British destroyed six villages, many isolated country houses, and four vessels, and killed many soldiers and others who were in no way connected with the destruction of the village of Newark. The losses of the British under General Riall were, according to his report, 31 killed and 72 wounded and nine missing. He said that the Americans lost between 300 and 400 killed and wounded and 130 prisoners.

#### DISPOSITION OF THE VESSELS.

The following disposition was made of the vessels which participated in the battle of Lake Erie: the Lawrence was repaired, and, after making a cruise to Lake Huron, was sunk in Misery bay for her better preservation. Many years later her stern was elevated and a portion secured for memorials. The Niagara, after being kept at Lake Erie many years as a receiving ship, was sunk near the Lawrence. The Ariel, Little Belt, Chippewa and Trippe, as related above, were destroyed when Buffalo was burned. The Detroit was sunk in Misery bay, near the Lawrence. She was, in

1835, raised and rigged a bark, by Captain Miles, and navigated the lake some years; she was finally purchased by a hotel keeper at Niagara Falls with the view of making a spectacle for visitors there on a summer day. A live bear was placed on board, together with some other animals, and she was set adrift above the rapids. A great crowd of people watched her from the banks of the river, expecting to see her go over the Falls, but she caught on the rocks and went to pieces. This was the end of the Detroit.

The Queen Charlotte was sunk in Misery bay, and afterward fitted out for the lake trade. The Lady Prevost was sold to R. S. Reed, and afterward resold to Grant & Kirby, merchants at Fort Erie, in Canada, who sailed her until she was worn out. The Hunter was sold and used in the merchant service. The Caledonia stranded below Erie, and was sold to John Dickson, who raised and rebuilt her and named her General Wayne. She was finally broken up at Erie. The Somers and Ohio were captured off Fort Erie, and used in Canadian merchant service. The Scorpion and Tigris were captured in 1814 on Lake Huron, and worn out there. The Porcupine was repaired and used until 1820, when she was transferred to the revenue service. Later she became a trading vessel, and eventually became the property of Barber & Mason, pioneer lumbermen on the Grand river, who used her in the lumber trade between Spring Lake, then called Mill Point, and Chicago. She was afterward sold to Ferry & Sons, who used her in their extensive lumber trade, until she became unseaworthy, and she was then sailed up into Spring Lake and allowed to sink in 1848. During her last year on the lakes her condition was such that Capt. Pat Mahoney was obliged to hire a new crew at every point, as it was a case of "pump ship" in order to keep afloat. Recently she was raised by E. C. Richards, principal of the Fruitport schools. The old condemned Amelia was taken to the little basin opposite Erie, and there went to decay.

## CHAPTER XIII.

### WAR OF 1812, CONCLUDED.

OPPOSING FLEETS ON LAKE ONTARIO IN 1814—YEO CAPTURES OSWEGO—BRITISH SQUADRON OF BOATS TAKEN AT SALMON RIVER—BATTLE OF CHIPPEWA—BATTLE OF LUNDY'S LANE—FORT ERIE INVESTED—BRITISH ARE REPULSED—SCHOONERS SOMERS AND OHIO LOST—THREE-DECKER NEW ORLEANS—ST. LAWRENCE LAUNCHED—EVENTS ON THE UPPER LAKES—EXPEDITION AGAINST MACKINAC—SCHOONER MINK CAPTURED—SCHOONER PERSEVERANCE DESTROYED—FORT MACKINAC INVESTED—SCHOONER NANCY IS TAKEN—TIGRIS AND SCORPION TAKEN BY THE BRITISH—PEACE IS DECLARED.

**D**URING the winter of 1813-14 active preparations had been going on both at Kingston, Ontario, and Sacket's Harbor for the war on Lake Ontario during the summer of 1814. If there was any difference between the energy of the respective forces at the two places, Commodore Yeo had the advantage. He was ready for the campaign before Chauncey. The Prince Regent and the Princess Charlotte were launched on April 15, and his six original cruisers had all been renamed, some of them had been repaired, and his schooners had been converted into brigs. The Wolfe, Melville, Royal George, Earl of Moira, Beresford, and Sydney Smith had become the Montreal, Niagara, Star, Charwell, Netly and Magnet. Following is the list of his vessels, together with their rig, tonnage, crew and armament:

NAME	RIG	TON- NAGE	CREW	ARMAMENT
Prince Regent	Ship	1,450	485	{ 12 long 24's 4 short 68's 22 long 32's
Princess Charlotte ..	"	1,215	315	{ 26 " 24's 2 short 68's 14 long 32's
Montreal ....	"	637	220	{ 7 " 24's 18 " 18's 2 " 12's
Niagara .....	"	510	200	{ 20 short 32's 2 long 12's 14 short 32's
Charwell .....	Brig	279	110	{ 2 long 12's 2 long 12's 14 short 32's
Star .....	"	262	110	{ 2 long 12's 14 short 32's 2 long 12's
Netly .....	"	216	100	{ 2 long 12's 14 short 24's 2 long 12's
Magnet .....	"	187	80	{ 2 long 12's 12 short 24's
Eight vessels.		4,756	1,620	209 guns

When Commodore Chauncey's squadron was ready for the lake, late in the year, comparatively speaking, it was composed of the following vessels:

NAME	RIG	TON- NAGE	CREW	ARMAMENT
Superior. ....	Ship	1,580	500	{ 30 long 32's 2 short 24's 26 " 42's
Mohawk .....	"	1,350	350	{ 26 long 24's 2 " 18's 14 short 32's
Pike .....	"	875	300	{ 26 long 24's 2 short 24's 2 long 12's
Madison .....	"	593	200	{ 22 short 32's 2 long 12's 20 short 32's
Jones .....	Brig	500	160	{ 2 long 12's 20 short 32's 2 long 12's
Jefferson .....	"	500	160	{ 2 long 12's 20 short 32's 2 long 12's
Sylph .....	"	300	100	{ 14 short 24's 2 long 12's 2 long 12's
Oneida .....	"	243	100	{ 14 short 24's
Eight vessels.		5,941	1,870	228 guns

*Yeo Captures Oswego.*—In the spring of that year there was a large quantity of stores and provisions at and near Oswego, a knowledge of which fact came into possession of Sir James Yeo. These stores and provisions Sir James determined to capture or destroy, and with this purpose in view he embarked 1,080 men on May 3, General Drummond embarking on the 4th. As before stated, Chauncey was not then ready for sea, and there was no one to defend these stores except the garrison at Oswego, which place is sixty miles from Sacket's Harbor. The fort at Oswego mounted only six guns, and there were about 300

men there on duty, chiefly light artillery, with probably about fifty militia, all under command of Colonel Mitchell. The Growler was in the harbor, with seven guns on board, destined for Sacket's Harbor. This vessel her commander sank, but after the battle was over she was raised and carried away by the British. The attack was made on the 6th, the Princess Charlotte, Montreal and Niagara engaging the batteries, while the Star and Charwell filled the woods with grape in order to clear them of militia.

The Montreal sustained nearly the entire fire of the forts, and was much cut up in her hull, masts and rigging. She was set on fire three times, but it was put out each time. Under cover of the cannonade 800 British troops landed, besides 200 seamen, who made an attack upon the fort and carried it by storm. Mitchell fell back to the falls of Oswego, twelve miles, where was the largest quantity of stores, and which Sir James might have captured had he known of their existence or cared anything about them. But instead of following Mitchell up the river he returned to Kingston, after capturing and destroying the guns of the fort, raising the Growler and taking away a considerable quantity of booty besides. In this battle the Americans lost 6 killed, 38 wounded and 25 missing, while the British loss was 22 killed and 73 wounded, a total of 95, nearly a third of the American force engaged.

On the 19th of the month, after being in Kingston about two weeks, Sir James again weighed anchor, and, crossing the lake, established a rigid blockade at Sacket's Harbor. Chauncey had been making strenuous efforts to get his fleet ready, having converted his schooners of the year before into transports, except the Sylph, and on February 2 had laid the keel of two 22-gun brigs, the Jefferson and the Jones, and had one large frigate, named the Superior, under way. The Superior was designed in the first place to carry 50 guns, but upon being informed that the British were building a very large war ship, he decided to enlarge the Superior to carry 62 guns. The Jefferson was launched April 7, and the Jones on the 10th, and the Superior on May 2, an

attempt on the part of the British to destroy her by blowing her up having been frustrated some days before. Another frigate, the Mohawk, was at once begun.

When Commodore Yeo appeared off Kingston, Chauncey was making strenuous efforts to get the Superior ready for sea, but the heavy guns and cables necessary to complete her equipment had not arrived, and as these could only be brought forward by water, and as the port was blockaded by the British squadron, it was dangerous to attempt to bring them forward at all. To get the guns forward must be undertaken at all hazards, and Captain Woolsey was entrusted with the task. They were at Oswego Falls, and Captain Woolsey undertook to get them to Stony Creek, three miles away from Sacket's Harbor.

*British Squadron of Boats Taken at Salmon River.*—At sunset on May 28, Woolsey left Oswego with nineteen boats carrying 21 long 32's, 10 long 24's, 3 42-pound carronades, and 10 cables, one of the latter for the Superior, being a rope 22 inches in circumference and weighing 9,600 pounds. On the morning of the 29th at sunrise the boats were off Salmon river, and as it was unsafe to travel by daylight, Woolsey ran up into Big Sandy creek, eight miles from the Harbor, with eighteen of his boats, one of them getting out of line and running directly into the British squadron with its 2 long 24's. Sir James thus being informed as to what was going on immediately determined to capture the entire outfit, sending out for this purpose a squadron of boats containing 180 men—one boat armed with one 68-pound gun and one 24-pound carronade, and the other armed with a long 32-pound gun. These two armed boats were accompanied by three cutters and a gig mounting between them two long 12's and two brass 6's. This force ran up Sandy creek on the morning of the 30th, but the force turned out to be wholly inadequate for the object they had in view, for Woolsey had been re-inforced by some Oneida Indians, a company of light artillery and some militia, so that he felt justified in not only attempting to repel any attack that might be made on him, but also



in attempting to capture the entire expedition sent out against him. Sending Major Appling down the river with about 120 riflemen and some Indians to lie in ambush, he anticipated the approach of the British with some anxiety, but with hope of capturing them. When they approached Major Appling's position, he opened fire upon them, with such a destructive effect that they were at once thrown into confusion and stampeded, the entire outfit being captured with but little resistance, as is shown by the number of lost on the American side, only one man slightly wounded, while the British loss was 18 killed and 50 wounded.

On June 6, Sir James raised the blockade of Sacket's Harbor, and by July 31 Commodore Chauncey was ready to sail with his fleet. Sailing up to the head of Lake Ontario he intercepted the small brig *Magnet*. The *Sylph* was sent in to destroy her, but her crew ran her ashore and burned her. The *Jefferson*, *Sylph* and *Oneida* were then left to watch some other craft in the Niagara, and the *Jones* was kept cruising between Sacket's Harbor and Oswego, Chauncey at the same time with his four largest ships blockading Sir James' four largest ships in Kingston. The four American vessels were in the aggregate of 4,398 tons, were manned by 1,350 men, and presented 77 guns, firing a broadside of 2,328 pounds of shot, while the British fleet was in the aggregate of 3,812 tons, was manned by 1,220 men, presented in broadside 74 guns, firing 2,066 pounds of shot. It was because of the superiority of the American fleet that Sir James declined to come out to fight.

General Brown, at the close of June, 1814, was on the east bank of the Niagara river, with his headquarters at Buffalo. In his judgment he had a force of sufficient strength to successfully invade Canada, and his plan was to threaten Forts George and Niagara, carry Burlington Heights and York, and then proceed to Kingston, provided Chauncey would co-operate with his fleet and keep him supplied with provisions. To this request Chauncey sent reply that he intended to seek and find the enemy's fleet, and that he should not be diverted from his

purpose. Chauncey remained off Kingston harbor, blockading Yeo. On September 21 he transferred General Izard with 3,000 men from Sacket's Harbor to General Brown, and then returned to Kingston, where he remained until the large vessel, then being built at Kingston, a two-decker carrying 120 guns, and named the *St. Lawrence*, was completed. He then retired to Sacket's Harbor. Commodore Yeo came out of Kingston with his fleet October 15, and went down to the Niagara frontier, where he assisted the British army until the close of navigation, about November 21.

General Brown made an attempt to invade Canada just below Fort Erie, and on the 2nd of July issued orders to cross the river from Black Rock. This force was under General Scott, and another force was ordered to cross above Fort Erie under General Ripley. Fort Erie was invested, and soon surrendered.

*Battle of Chippewa.*—General Riall in command on the British side, apprised of the danger impending at Fort Erie, immediately sent forward from below Chippewa five companies of the Royal Scots, to re-inforce that fort; but, when in front of Chippewa, they were met by the information that the surrender had already been made. General Riall then determined upon fighting the Americans on the Canada side of the river, the result being the battle of Chippewa, one of the most fiercely contested and important battles on the Niagara frontier, and indeed of the war. This battle was fought July 5 between about 1,700 British and 1,300 Americans, and after various fortunes and misfortunes on either side, was at length won by the Americans, though claimed by both sides as a victory. The fighting was severe on both sides, and was altogether creditable to the soldiers of the two opposing armies, as is fully attested by the losses, the Americans losing in killed 61, and in wounded 255, and 19 missing, while the British loss was 236 killed, 322 wounded, and 46 missing.

It was just after this success that General Brown wrote to Commodore Chauncey, as noted above, asking for his assistance. Failing to receive the assistance of Chaun-

cey, General Brown returned to the battlefield of Chippewa, arriving there on the 24th, and there rested his army during the night and most of the next day. On the night preceding the 24th, Lieut.-Gen. Sir George Gordon Drummond landed at the mouth of the Niagara river, having come up the lake on the fleet from Kingston, bringing with him 800 men to re-inforce General Riall. Riall and Drummond formed a junction on the Niagara without being discovered by General Brown, and when General Scott, always active and eager for distinction in his country's service, asked permission to go down to the mouth of the river and attack the forts there, he was given 1,200 men, and started down. This was in the afternoon of the 25th, a day long to be remembered by both Canadians and Americans.

*Battle of Lundy's Lane.*—General Scott started down the river about 5 o'clock in the afternoon, and was surprised to find the enemy in superior force, drawn up to meet him at Lundy's Lane. As it was impossible to retreat without throwing the army in his rear into a panic, Scott instantly determined to fight and to make the British general believe he had the whole American army at his command. The battle was fought with great courage and determination on each side, until half-past ten that night, when the British were driven from the field, their commanding general, Riall, having been taken prisoner by accident about 9 o'clock. Not long afterward the Americans "retired also from the field," leaving the battery they had fairly captured in the position it had occupied during the battle. Next morning, when General Ripley moved forward to bring off the cannon, he found them again in possession of the British, and there was no more fighting. Both parties had lost heavily, and both claimed the victory. The Americans lost 171 killed, 571 wounded, and 110 missing, a total loss of 852, while the British lost 84 killed, 559 wounded, and 193 missing, besides 42 prisoners, a total loss of 878.

Generals Brown and Scott being both severely wounded, the command devolved upon General Ripley, who determined to

cross the Niagara with his army, and abandon Canada altogether. General Brown, then at Black Rock, promptly interfered, and by positive orders to General Ripley insisted that the army should take a strong position in Fort Erie, and should strengthen those works. Labor was continued on the fortifications from July 27 until August 2.

*Fort Erie Invested.*—General Drummond, re-inforced by about 1,100 men of General De Watteville's brigade, determined to invest Fort Erie, and, August 2, it was discovered that the British were approaching that fort. Besides the fortifications already thrown up, the Americans were protected by the schooners Porcupine, Somers and Ohio, formed in line on the water side of the fort, thus completing the inclosure of the American camp. Drummond's plan was first to capture the batteries at Black Rock, and then to capture or destroy the armed schooners, before laying regular siege to Fort Erie, and with this end in view he sent over Lieutenant-Colonel Tucker, with a detachment of troops in nine boats to attack the batteries. Landing about half a mile below the mouth of Scajagada creek, he found himself confronted by Major Morgan with about 240 riflemen, besides some volunteers and militia, and, after two unsuccessful attempts to land, was driven back across the river.

General Drummond then had to content himself with laying siege to Fort Erie, which went steadily forward from that time until August 14, on which day, at midnight, an assault was made upon the works, which was kept up with terrible energy until daylight, the defense being equally brave and determined. The British had before then secured possession of one of the bastions of the fort, and it seemed impossible to dislodge them, until all at once a terrible explosion occurred directly beneath them, in which fragments of timber, stones, earth and men's bodies were thrown into the air about 200 feet, and they were enveloped in disaster. This was the final blow to the British in the contest.

How this explosion occurred is differently explained. General Drummond said that it was through the accidental ignition

of ammunition, unfortunately placed under the platform, which had caught fire from the firing of the guns in the rear; while Lossing presents evidence that it was because of the explosion of a magazine directly beneath the British, touched off purposely by the Americans. The loss to the Americans in this siege of Fort Erie was 17 killed, 56 wounded and 11 missing; while the British lost 221 killed, 174 wounded, and 186 prisoners.

*Schooners Somers and Ohio Lost.*—The Americans also lost the schooners Somers and Ohio, which on the night of the 12th had been captured and carried away, while the Porcupine drove off her assailants.

*British are Repulsed.*—Immediately after this siege both parties began preparations for another contest, and until the middle of September each was constantly re-inforced. By this time the Americans had 27 guns in position and 3,000 men behind them. General Gaines was then in command, but on account of a shell falling through the roof of his tent, exploding at his feet and severely wounding him, he was compelled to retire and relinquish the command to General Brown, who though not fully recovered from the wounds received at Lundy's Lane, was yet able to assume this responsibility. On the 17th General Brown planned a sortie on General Riall's position, and on the same day Gen. Peter B. Porter, who had for many years been a prominent citizen of Black Rock, was ready to co-operate with General Brown with 2,000 men. Brown's troops were soon in motion, divided into three separate corps, one of which was General Porter's. The sortie was in all respects a success, the British being driven from the position they had selected and occupied for some time in anticipation of another attack on Fort Erie, the Americans losing in the attack 80 men killed, and more than 400 wounded and missing, while the British loss was about 500 in killed, wounded and missing, besides 385 taken prisoners. General Drummond then fell back to his old camp ground, behind Chippewa creek.

General Izard's division, which had been ordered up to the lakes, reached Sacket's

Harbor on the very day this sortie took place, and at once resolved to move westward. On the 21st he embarked in Chauncey's fleet 2,500 infantry, and directed his dragoons and light artillery to move by land by way of Onondaga. Izard and his infantry reached Genesee river on the 21st, where they disembarked next day, and began their march toward the Niagara frontier on the 24th, reaching Lewiston on the 5th of October. Moving up to Black Rock, he crossed the Niagara river on the 10th and 11th, and took command of the forces there, General Brown retiring to Sacket's Harbor.

Soon General Izard had nearly 8,000 troops under his command, and, leaving a sufficient garrison at Fort Erie, he moved with his army toward Chippewa, having a sharp engagement on the way at Cook's Mill on Lyon's creek, in which his troops were successful, the British losing about 150 in killed, wounded and missing, while his loss was 12 killed, 54 wounded and one prisoner. Drummond, perceiving that the American force was too strong for him, fell back to Fort George and Burlington Heights.

Active operations then ceased for the season, winter rapidly coming on. General Winder led a portion of General Brown's forces to Sacket's Harbor, and a portion of them went to Greenbush, and still another portion to Erie, while General Izard ordered that Fort Erie be blown up, as it would be of no further use that season, the explosion occurring on November 5, 1814.

*The Three-Decker New Orleans.*—The building of the St. Lawrence at Kingston by the British in the summer of 1814 led to the construction at Sacket's Harbor of a vessel to match the British double-decker, which was intended to carry about 120 guns. This American was built under the supervision of Henry Eckford, and was named the New Orleans. Her construction was rushed forward with great rapidity, for according to Hough's History of Jefferson County, N. Y., she was built between the time of the signing of the treaty of Ghent, December 24, 1814, and the date of receiving the news of the treaty having been



signed. She was to have been a three-decker, pierced for 110 guns below her upper deck, and to carry 120 guns in all, 18's and 44's. Her frame was completed, and her planks nearly all on when the glad tidings of peace caused work upon her to cease. She was never launched nor completed, but instead a spacious house was erected over her, and she was well taken care of until February 18, 1880, on which day a violent storm blew down her ship house, and on February 9, 1884, she was sold to Alfred Wilkinson, of Syracuse, and torn down.

Her dimensions were as follows: Length over all, 214 feet; keel, 187 feet; beam, 56 feet, and depth of hold, 47 feet, and she was designed to draw 27 feet of water. She was of 3,200 tons burden. During the many years of her existence she was visited by many thousands of people, especially on public occasions, as a historic reminder of the times when Sacket's Harbor was the seat of war between the United States and Great Britain.

Had the war lasted until the next year Chauncey would have had the advantage, for besides the New Orleans he had another vessel under course of construction, to be called the Chippewa. This vessel was being built further up the bay at Storr's Harbor. This was to have been an 84-gun ship, of the same mold as the New Orleans, but not so large. The Chippewa was not housed as was the New Orleans, and was sold at auction many years before the larger vessel. Some have believed that these vessels were put together with copper bolts, but according to information sent the writer by W. B. Camp, of Sacket's Harbor, this was not the case. But Mr. Camp says that copper sheeting was found on the bottom of the frigate and the gunboats when the magazines were placed.

*St. Lawrence Launched.*—On the Canadian side the St. Lawrence was launched on October 2, 1814, and on the 15th of that month she sailed with Sir James Yeo on board and nearly 1,000 men. She was accompanied by four ships, two brigs and a schooner, and for the remainder of the season Sir James was lord of the lakes.

#### EVENTS ON THE UPPER LAKES.

In 1814 Capt. Arthur Sinclair was placed in command of the lakes above Niagara Falls, and active preparations were now put on foot to take Mackinac. An expedition for this purpose had been planned immediately after the battle of the Thames, but it was prevented by the delay in the arrival of the two boats, the Chippewa and Ohio, which had been sent for provisions. These vessels had encountered a storm, and were stranded off the lower end of the lake. Early in April, 1814, the expedition was again started, with the two-fold object of taking the fort and of destroying some boats the English were building in Gloucester bay. This too, was temporarily abandoned, partly because it was thought Great Britain would not endeavor to retain possession of the upper lakes, and partly because of a misunderstanding between General Harrison and Colonel Croghan, who commanded at Detroit, and the Secretary of War.

*Expedition Against Mackinac.*—But the plan was revived, and a squadron, consisting of the United States sloops of war Niagara and Lawrence, carrying twenty guns each, and the smaller schooners Caledonia, Scorpion, Tigris, Detroit, and others, and a land force of 750 men placed on board. Commodore Sinclair was the naval commander, and Lieut.-Colonel Croghan, who had gained distinction by his defense of Sandusky in 1812, was in command of the militia. Ambrose R. Davenport, who had refused to take the oath of allegiance to the British crown on the taking of Fort Mackinac, was chosen as quartermaster and guide. On July 3, the fleet set sail. High hopes of success and glory cheered both officers and men, but disappointment awaited them. They made every effort to gain Gloucester bay, and destroy the vessels supposed to be there, but the islands and sunken rocks in Lake Huron threatened destruction to the fleet, and dense fogs prevailed. Provisions were growing short, and the fleet pushed on to the head waters of the lake.

*Schooner Mink Captured.*—When nearing their destination, a counsel was called

to decide whether they invest Fort Mackinac, or attack St. Joseph. The latter course was pursued. On July 20 they arrived at St. Joseph, but found the place deserted. They burned the fort, leaving the town and the Northwest Company's storehouses uninjured. While windbound at this point, Sinclair captured the Northwest Company's schooner Mink, from Mackinac to St. Mary's with a cargo of flour, and by this means received intelligence that the schooner Perseverance was lying above the Falls of St. Mary's, at the foot of Lake Superior, in waiting to transport the Mink's cargo to Fort Williams.

*Schooner Perseverance Destroyed.*—Sinclair immediately dispatched Lieutenant Turner to capture her and, if possible, get her down the falls. Colonel Croghan attached Major Holmes with a party of regulars to co-operate in the expedition, in which the capture of St. Mary's was included. The following is Lieutenant Turner's official report, dated U. S. Schooner Scorpion, off Michilimackinac, July 28, 1814.

Sir:—I have the honor to inform you, that agreeable to your orders of the 22nd inst., I proceeded to Lake Superior with the launches. I rowed night and day; but having a distance of sixty miles, against a strong current, information had reached the enemy at St. Mary's of our approach about two hours before I arrived at that place, carried by Indians in their light canoes; several of whom I chased, and by firing on them and killing some, prevented their purposes; some I captured and kept prisoners until my arrival, others escaped. The force under Major Holmes prevented anything like resistance at the fort, the enemy, with their Indians, carrying with them all light valuable articles, peltry, clothes, etc. I proceeded across the strait of Lake Superior without a moment's delay; and on my appearance, the enemy, finding they could not get off with the vessel I was in quest of, set fire to her in several places, scuttled and left her. I succeeded in boarding her, and by considerable exertions extinguished the flames and secured her from sinking. I then stripped her, and prepared for getting

her down the falls. Adverse winds prevented my attempting the falls until the 26th, when every possible effort was used, but I am sorry to say without success, to get her over in safety. The fall in three-quarters of a mile is fifty-five feet, and the channel very rocky; the current runs from twenty to thirty knots, and in one place there is a perpendicular leap of ten feet between three rocks; here she bilged, but was brought down so rapidly that we succeeded in running her on shore below the rapids before she filled, and burned her. She was a fine new schooner, upwards of 100 tons, called the Perseverance, and will be a severe loss to the Northwest Company. Had I succeeded in getting her safe, I could have loaded her to advantage from the enemy's storehouses. I have, however, brought down four captured boats, loaded with Indian goods to a considerable amount; the balance contained in four large and two small storehouses, were destroyed, amounting in value from fifty to one hundred thousand dollars. All private property was, according to your orders, respected. The officers and men, under my command behaved with great activity and zeal, particularly midshipman Swartwout.

I have the honor to be, sir, with great respect, your obedient servant.

(Signed) DANIEL TURNER.

On the return to St. Joseph, the squadron at once proceeded to Fort Mackinac, arriving there on the 26th. Colonel McDonald, the British commander, had made the most of his opportunities in strengthening his fort, during the interval given him by the American tactics. All weak points in the fortifications had been strengthened, and Indian aid summoned.

*Fort Mackinac Invested.*—Sinclair went as near to the channel between the islands of Round and Mackinac as the batteries would permit and anchored on the eastern extremity of Round island, where he thought he would be out of range. Scarcely had the anchors reached the bottom when the whizzing balls warned them they were still too close, and they were compelled to move toward the island Bois Blanc, when

Croghan dispatched an officer with a number of men, and Mr. Davenport as guide, to reconnoitre the enemy's position and find the most advantageous spot on which to erect the battery. Several landings of troops were made upon the island, but the numerous bands of skulking savages constantly harassed them with considerable loss, Major Holmes being among the slain. The attempt to wrest Fort Mackinac from the English by force, and the island upon which it stood, was finally abandoned.

Having failed in the reduction of Fort Mackinac, which Sinclair denominated a perfect Gibraltar, measures were taken to starve it into submission, by cutting off its supplies. The troops, with the exception of three companies, were dispatched in two vessels to join General Brown on the Niagara, and the remainder of the squadron directed its course to the east side of the lake, to break up any establishment which the enemy might have in that quarter. They proceeded to the mouth of the Nottawasauga, in hopes of finding the enemy's schooner Nancy, which was thought to be in that quarter. On August 13 the fleet anchored off the mouth of that river.

*Schooner Nancy is Taken.*—An old English author, James, in his "Naval History of Great Britain," gives this account of the capture of the Nancy: "The Nancy was lying about two miles up the Nottawasauga under the protection of a block house situated on the southeast side of the river. This enabled Captain Sinclair to anchor his vessels within good battering distance of the block house. A spirited cannonade was kept up between them and the block house, where, besides two 24-pounder carronades on the ground, a six pounder was mounted. The three American vessels outside, composed of the Niagara, mounted eighteen carronades (thirty two pounders) and two long twelve-pounders, and the Tigris and Scorpion mounted between them one long twelve and two long twenty-four pounders. In addition to this force, a five and a half inch howitzer, with a suitable detachment of artillery, had been landed on the peninsula. Against these twenty-four pieces of cannon and upward of 500 men were op-

posed one piece of cannon and twenty-three officers and seamen.

"Further resistance was in vain, and just as Lieutenant Worsley had prepared a train, leading to the Nancy from the block-house, one of the enemy's shells burst in the latter and both the blockhouse and the vessel were presently blown up. Lieutenant Worsley and his men escaped in their boat up the river and, fortunately, the whole of the Northwest Company's richly laden canoes, bound across the lake, also escaped into French river. Having thus led to the destruction of a vessel which the American commander had the modesty to describe as 'His Britannic Majesty's schooner, Nancy,' Captain Sinclair departed for Lake Erie, leaving the Tigris and Scorpion to blockade the Nottawasauga, and, as that was the only route by which supplies could be readily forwarded, to starve the garrison at Michilimackinac into a surrender. After remaining at their station for a few days, the two American schooners took a trip to the neighborhood of St. Joseph. Here they were discovered, August 25, by some Indians on their way to Michilimackinac."

After the destruction of the Nancy, her captain, with several of his men, proceeded to Fort Mackinac. Provisions were getting low; the men were subsisting on half rations, and had already been reduced to the necessity of killing several horses to ward off starvation. A long and dreary winter was near at hand. An expedition was at once fitted out by Colonel McDonald, consisting of a force of 150 sailors and soldiers, and 250 Indians, in open boats, to break the blockade, if possible.

*Tigris and Scorpion taken by the British.*—On September 3, at 6 o'clock P. M., they found the Tigris at anchor, and came within one hundred yards unobserved, when a smart fire of grape and musketry was opened upon them. They advanced, and, two boats boarding her on each side, she was carried, after a short contest, in which the British lost seven men killed and wounded, and the Americans, out of a crew of twenty-eight, had three killed and two wounded. The prisoners having been sent to Mack-



inac, the Tigris was got under way the next day, still keeping the American colors flying, and proceeded in search of the Scorpion. On the fifth, they came in sight of her, and, as those on board knew nothing of what had happened to the Tigris, were suffered to approach. At daylight the next morning, the Tigris was again got under way, and running alongside her late consort, the British carried her by boarding, after a short scuffle, in which four of the Scorpion's crew were killed and wounded, and one of the British wounded. The schooners had on board large quantities of arms and ammunition.

Mackinac was left in the hands of the English until peace was declared. In the spring of 1815, the post was evacuated by the English, and a company of American troops, under Colonel Chambers, took peaceable possession.

*Peace is Declared.*—Peace was arranged between the two governments at Ghent, December 24, 1814, fifteen days before the battle of New Orleans. By this treaty provision was made for definitely determining the boundary line between the United States and Canada, from the point where the forty-fifth degree of north latitude strikes the "River Iroquois or Cataraguy" (St. Lawrence) to Lake Superior, in accordance with the intent of the Treaty of 1783, and also from the water communication between Lake Huron and Lake Superior to the northwesternmost point of the Lake of the Woods; to decide to which party the several islands lying in the lakes, water communications and rivers respectively belong, and to particularize the latitude and longitude of the northwesternmost point of the Lake of the Woods.

The commissioners of each government

who met at Ghent were instructed by their respective governments to exclude, if possible, the other party from the lakes; but this was found impracticable, and the British commissioners, under instructions from their home government, gradually receded from this point, as from many other points, during the long summer and fall of 1814, and the treaty was concluded as noted above. It did not in any way touch upon the question of American and British naval forces upon the lakes.

In April, 1817, an agreement was entered into at Washington to the effect that but one vessel of not more than 100 tons burden, and armed with one 18-pound gun, should be maintained by each of the two nations on Lakes Ontario and Champlain. This agreement having been approved by each of the two governments, it was announced by a proclamation issued by President James Monroe, April 28, 1818. The *Lady of the Lake* with three pivot guns on deck, and the brig *Jones*, with 18 guns on deck, were kept up until this agreement was announced; the *Pike*, *Jefferson*, *Mohawk*, *Madison*, *Superior* and *Sylph* having been dismantled soon after peace was declared. The *Jones* and fifteen barges were, in 1816, reported in good order. Most of these vessels were covered with a roof, but in the annual returns to the department were successively marked "much decayed," "sunk," "useless," etc., until March 3, 1824, when an Act was passed directing that all public vessels on Lakes Erie and Ontario, except the ships of the line, *New Orleans* and *Chippewa*, then on the stocks under cover, should be sold, and the avails should be applied to the repair and building of sloops of war. The *Lady of the Lake* continued to be kept up until the passage of this Act.



## CHAPTER XIV.

### GROWTH OF TRAFFIC.

COMMERCE EXPANDS AFTER THE WAR OF 1812—CHARACTER OF EARLY TRAFFIC—SETTLEMENT OF MICHIGAN—ILLINOIS AND WISCONSIN—IMMIGRATION BY LAKE—HELPED BY THE ERIE CANAL—EARLY COMMERCE WEST OF DETROIT—THE INDIAN TRADE—FIRST STEAMBOAT ON LAKE MICHIGAN—FROM 1833 TO 1840—TRANSPORTATION BY LAND—EARLY LAKE FARES AND FREIGHTS—GROWTH OF PASSENGER TRAFFIC—TRAVEL FROM THE SOUTH—GROWTH OF POPULATION—BENEFITS FROM THE CANALS—NATIONAL EXTENT OF LAKE COMMERCE—RUINOUS EFFECTS OF THE RAILWAYS—SHIPS THAT PASSED DOWN TO THE SEA—MODERN TRAFFIC—COMMERCE THROUGH DETROIT RIVER—COMMERCE THROUGH THE ST. MARY'S CANALS—COASTING TRADE OF ONTARIO, CANADA.

ONE natural division of the history of the traffic on the Great Lakes is into two periods; the first, before railroad competition; the second, after railroad competition. Another division would be before and after the construction of the Sault canal, that important waterway exercising an important influence upon commerce. Again, the period of settlement on the shores of the lakes might be considered one phase of lake navigation, and the subsequent period another phase. Quite curiously, all these divisions arrange themselves and blend into much the same periods of time. The first of these two epochs has passed wholly into history. It had its marvelous growth, its prosperous maturity, and had commenced its decline, when the new, or modern, conditions caught up the halting commerce, and are to-day carrying it to a magnitude that can be but dimly discerned. In this chapter will be recorded a few of the features that characterized the first of these two periods.

When peace was restored, after the war of 1812, and the energies of the lake dwellers were directed again to commerce, traffic on the Great Lakes was endowed with a new and vigorous growth. It first attained activity on Lake Ontario, where population was rapidly gaining the consistency and permanency of older settlements. Sail vessels multiplied, and the primitive

steamer, Ontario, was launched in 1816. Two years later, the Walk-in-the-Water appeared as a strange and curious craft among the white-winged fleets of Lake Erie. The chief commerce of the lake vessels was in bringing household goods, provisions and various articles of domestic need. Wheat was not uncommonly an article of west-bound lake traffic in the early years, following the war of 1812, not only to the few military posts in the distant Indian country, but to the early settlements of the white immigrants; and as this tide of immigration crept slowly and steadily westward, the commerce of the lake country grew more complex and important. But for nearly twenty years after the close of the war of 1812 it had scarcely grown beyond the confines of Lake Erie.

The principal articles of shipment to Buffalo in 1830 were corn, fish, furs, whisky, lumber and shingles, and the points of traffic between Detroit and Buffalo and all ports on Lake Erie. The return cargoes were merchandise and passengers, while there was an occasional clearance from Lake Erie ports and Detroit for Mackinac and Chicago, and the freights thus transported were flour, whisky, beef and merchandise, with invariably small cargoes.

The schooner Detroit cleared from Cuyahoga in 1830 with a full load, consisting of 91 barrels of flour, 101 barrels of whisky,

63 barrels of pork, 51 barrels of dried fruit, 24 barrels of cider and 16 barrels of beef. Captain Robinson sailed her. Vessels plying to Canadian ports from Detroit traded to Goderich, Penetanguishene and Drummond island. Even at this early period Saginaw (Sagana) was not unknown, but was visited only by sail vessels. The schooner Eclipse, Capt. John Shook, during the season of 1830, visited Green Bay with supplies on three occasions. The schooner Cincinnati, Capt. Morris Tyler, made one trip to Grand River, Mich., with whisky, beer, plank boards, 350 bushels of potatoes and 87 cwt. of iron, returning in ballast; also three trips between Cuyahoga and Fort Erie, with dressed hogs for the Montreal market. Considerable traffic was carried on by vessels trading between Malden and other Lake Erie-Canadian ports to Fort Erie, which was the terminus for all freights destined to eastern Canada. From this point it was conveyed down the Niagara river to Chippewa, thence a distance of nine miles by teams to Queenston.

Sometime previous to 1819 the United States revenue cutter Fairplay arrived at Chicago, outside the bar, and then proceeded to enter the river. This task was successfully accomplished, and for the first time a sailing vessel, other than a yawl or Mackinaw boat, was anchored in the river just north of Fort Dearborn. A few years after the Walk-in-the-Water had been wrecked, various schooners, such as the Chicago Packet and the Virginia, plied in those waters. In 1829 an Ohio distiller, who had touched at Mackinaw, Detroit and Milwaukee, in a vain attempt to dispose of a load of whisky, reached Chicago in his boat. After ridding himself of all but ten barrels, he proceeded on his way to Grand River.

*Settlement of Michigan.*—The settlement of Michigan was made almost entirely by lake. It was delayed, in large measure, until Ohio had first been peopled. From 1800 to 1820 the population of Ohio increased fourteen fold, from 42,161 to 581,295; that of Michigan scarcely more than doubled, from 3,757 to 8,765. It has been remarked by Mr. Hinsdale that had the St.

Lawrence originally fallen to England instead of to France, the Great Lakes might not have been explored so promptly, but the adjacent country would have been more quickly peopled. It was not until after the appearance of steamers on the lakes in 1818, and the opening of the Erie canal in 1825, that the lands of Michigan began to be occupied. The political inertia of the French inhabitants was also an obstacle to rapid advancement. They preferred the irresponsible condition of territorial authority to the duties and burdens of self government, and by a decisive majority in 1818 rejected statehood. Not till an influx of fresh citizenship did Michigan finally, in 1827, join the Union.

*Illinois and Wisconsin.*—After the war of 1812 was over, the northwestern territory was held by the United States Government by a kind of military occupation for some twenty years, when, the Indian title having been extinguished, white settlers began to occupy northern Illinois and Wisconsin. The Sacs and Foxes, having repented of their surrender of this fair country, re-entered it in 1832, but after a short contest were expelled and driven westward, and the working period commenced.

The breaking out of the Black Hawk war, in 1832, first brought out a knowledge of the richness of the soil and salubrity of the climate of northern Illinois and Indiana, and the territory of Wisconsin, and exhibited the commanding position of Chicago (hitherto an isolated place) for commercial business. This war being closed that same season, and peace being re-established in all those parts, a strong emigration set in that direction the next year, and the rich prairies of that country began to fill with a vigorous, hardy and enterprising population.

*Immigration by Lake.*—Flint in his "History of the Mississippi Valley," published 1832, says: "On account of the universality and cheapness of steamboat and canal passage and transport, more than half the whole number of immigrants now arrive in the West by water. This remark applies to nine-tenths of those that come



from Europe and the Northern States. They thus escape much of the expense, slowness, inconvenience and danger of the ancient, cumbrous and tiresome journey in wagons. They no longer experience the former vexations of incessant altercations with landlords, mutual charges of dishonesty, discomforts from new modes of speech and reckoning money, from breaking down carriages and wearing out horses. Immigrants from Virginia, Georgia and the two Carolinas still immigrate after the ancient fashion, in the Southern wagon. Perhaps more than half the Northern immigrants now arrive by way of the New York canal and Lake Erie. If their destination be the upper waters of the Wabash, they debark at Sandusky, and continue their route without approaching the Ohio. The greater number make their way from the lake to the Ohio, either by the Erie and Ohio, or the Dayton canal. From all points except those west of the Guyandot route, and the national road, when they reach the Ohio, or its navigable waters, the greater number of the families take water."

*Helped by the Erie Canal.*—The opening of the Erie canal, in 1826, was a great factor in promoting the growth of the lake business. It was not felt immediately, but in a few years both freight and passenger business attained tremendous proportions, compared with the previous feeble volume of traffic.

On the Erie canal there were, in 1836, about 3,000 canal boats employed, leaving Albany almost every hour, affording facilities to emigrants to convey their families and property at a small expense. Between what was known as the packet and the line boat, there was but little choice, except that the former moved four miles per hour and the latter three miles per hour. The price of passage by the packet boat, including meals, from Albany to Buffalo, was \$14.52; on a line boat, 1½ cents per mile for passage, or 2½ cents a mile, including meals, making for a passage the whole route in the former case, \$5.44; in the latter, including meals, \$9.07. For light goods, from Albany to Buffalo, the freight was 75 cents per hundred weight; heavy, \$1,

and furniture 75 cents per hundred weight.

*Early Commerce West of Detroit.*— "Prior to the year 1832," says James L. Barton, "the whole commerce west of Detroit was confined, almost exclusively, to the carrying up of provisions and goods for the Indian trade, and bringing back, in return, the furs and other matters collected by that trade for an Eastern market, and the freighting up of provisions and supplies for the troops at the different posts established around the upper lakes, all of which furnished a limited business for a few schooners.

*The Indian Trade.*—Of the Indian trade at Michilimackinac in 1820 Schoolcraft says: "The Indian trade is chiefly conducted by the American or Southwest Fur Company, under the direction of Messrs. Stuart and Crooks. The warehouses, stores, offices, boat yards and other buildings of this establishment occupy a considerable part of the town plat, and the company furnishes employment to a great number of clerks, engagés and mechanics, and contributes very largely to the general business activity and enterprise of the town. The trade and operations of this company are confined principally to the northwestern territories of the United States.

*First Steamboat on Lake Michigan.*— "In 1826 or 1827," says James L. Barton, "the first steamboat sailed on Lake Michigan. She made an excursion with a pleasure party to Green Bay. These pleasure excursions were annually made, by two or three boats, until the year 1832. This year, the necessities of the government requiring the transportation of troops and supplies for the Indian war then existing, steamboats were chartered by the government, and made their first appearance at Chicago, then an open roadstead, in which they were exposed to the full sweep of northerly storms, the whole length of Lake Michigan."

Travel on the lakes was very flourishing in 1836. During May of that year there were 90 steamboat arrivals at Detroit, each one with passengers for Michigan and the West. The steamer, United States, which arrived May 23, carried over 700 people.

It is said that the steamboat owners that year earned from 70 to 80 per cent. on the cost of their vessels.

*Trade from 1833 to 1840.*—In reviewing the trade of Lakes Erie, Huron and Michigan between 1833 and 1840. Mr. Barton says: "In 1833 there were employed eleven steamboats, which cost the sum of \$360,000: they carried to and from Buffalo, and other ports on the lakes, that summer, 61,485 passengers. Of these, 42,956 were taken from Buffalo, bound west; the remaining 18,529 were all landed at Buffalo, excepting some few distributed at the different ports along the lake. There were made, that season, three trips to the Upper Lakes, two to Chicago, and one to Green Bay; the amount of receipts for which was \$4,356.

"By way of contrasting the time employed in making trips to Chicago in those days and the present, I will state that one of the boats left Buffalo June 23, at 9 P. M., and returned on July 18, at 10 P. M. The other left Buffalo July 20, at 4 P. M., and returned August 11.

"In 1834, the number of boats on the lakes was 48, of various sizes, from 150 to (one of them only) 750 tons, and cost in the construction \$2,200,000. Some of these boats were run and others laid up. The business this year west of Detroit reached the sum of \$201,838; this amount of business is made up (with the exception of some \$12,000 or \$14,000 paid by government for transportation of troops) by passengers, and freight of merchandise, going to the different towns (I cannot say ports, for there is none that a boat can enter with safety) on the borders of Lake Michigan; and passengers and produce, of which latter there was a good deal this year from the same quarter. In 1834 two trips were made to Green Bay, and three to Chicago, and the amount of business done was \$6,272; the greatest part of this sum was for business west of Detroit, as the trips to Chicago were made by a boat running from that place to Chicago.

"In 1835, as the spirit of land speculation had commenced west, the number of passengers crossing the lake was much increased, and, consequently, the aggregate

business done must have presented a much enlarged margin over 1834.

"As speculation was rife, and bank bills plenty, and everybody getting rich, a greatly increased business to the West took place in 1836, of passengers, merchandise and provisions.

"A great revolution in the trade of the country had taken place, in 1837, and a general suspension of specie payments by the banks occurred in May of that year. A less number, or, at least, no greater number of passengers crossed the lakes, in either 1837 or 1838, than in 1836; and a great decrease of goods going west also had a tendency to diminish the business of those years. In all probability, could the business of either of those years be ascertained, it would prove to be less than was done in 1836.

"The increase of business to Chicago and ports west of Detroit, in 1839, had become so large that a regular line of eight boats, varying in size from 350 to 650 tons each, was formed to run from Buffalo to Chicago, making a trip in every sixteen days. The increase in the business was by emigrants with their household furniture and farming implements, and others going west, and not from any freight from Lake Michigan, as the rapidly increasing population of that section of the country required provisions to be imported into rather than exported from it.

"The boats were run in the same manner by association, in 1840, and in 1841, with this exception: six boats of the largest class ran from Buffalo to Chicago, making fifteen day trips, and one to Green Bay a part of the season. The Chicago and Green Bay boats earned, in 1841, the sum of \$301,803, from the increased quantity of agricultural productions brought from the shores of Lake Michigan this season, also a good many tons of lead and shot from the mines in that section of the country, now, for the first time, in any considerable quantity, seeking a market by the lake route. I estimate that three-fourths of the business done by the Chicago and Green Bay boats this year is made from legitimate business west of Detroit, and amounts to \$226,352.

Business is found to have grown, in the short period of seven years, from 1834 to 1841, from the trifling sum of \$6,272 to the magnificent amount of \$226,352."

#### TRANSPORTATION BY LAND.

The cost of travel and transportation in those days of early navigation was almost immeasurably greater by land than by water, and it was that fact that so greatly stimulated the early traffic on the Great Lakes.

At the beginning of the present century the average cost of moving a ton of freight, by road, 300 miles, was \$100, or 33 $\frac{1}{3}$  cents per ton per mile. This made utterly prohibitive the shipment of agricultural products from the lake region to the Atlantic seacoast.

About the beginning of this century, freight designed for Lake Erie and the West was transported over a route leading from Lake Ontario, and from the mouth of the Niagara river to the head of the falls was a portage of 28 miles. The charge for transporting a bushel of salt for this distance, according to the report made by Mr. Geddes, in 1809, was 75 cents; and for a ton of general merchandise \$10. This was at the rate of 35 $\frac{1}{2}$  cents per ton per mile.

"Progress of Nations" says of the United States, in 1852, that "the average price for transporting by teams in this country a bushel of wheat, or corn, or 50 pounds of merchandise, 50 miles, has been about 20 cents, and 40 cents for 100 miles, equal to about 15 cents per ton per mile for grain, and 18 cents per ton per mile for merchandise.

It is stated that previous to 1824 the cost of transporting a ton of merchandise, between Buffalo and New York, over earth roads, was \$100, and that the time consumed was twenty days.

#### EARLY LAKE FARES AND FREIGHT.

Lake charges in early years were much higher than now, both in freight and passenger traffic, though far below transportation charges by land.

In 1815 and 1817 the trip between Buf-

falo and Detroit occupied about 13 days, and the fare was \$15.

On the *Walk in the Water*, in 1818, the cabin passage between Buffalo and Detroit cost \$18. On her first trip she carried 29 passengers, but later she sometimes carried 100 passengers.

These are the rates of passage on the early steamboat for 1820, being a reduction from former prices: From Black Rock to Erie, \$5; to Grand River, \$7; to Cleveland, \$10; to Sandusky, \$13; to Detroit, \$15. The most fastidious of present steamboat managers would be pleased with these rates for double the distance.

The rates of passage on Lake Ontario during the steamer Ontario's latter years (to 1832) were: From Genesee river to Youngstown or Lewiston, \$4; from Genesee river to Sacket's Harbor, \$5; forward cabin passengers, with board, at three-quarters of the above prices.

The charges for passage by steamboat on Lake Ontario in 1836 were as follows: From Ogdensburg to Lewiston, \$8; from Sacket's Harbor or Oswego to Lewiston, \$6; from Genesee river to Lewiston, \$3. These charges were for cabin accommodations, while for those taking deck passage the rates were usually one-third less.

The cost of down freight per ton from Buffalo to Albany, by Erie canal, including tolls, which made up about one-half the expense, was in periods of four years as follows: 1830, \$8.84; 1834, \$7.15; 1838, \$6.94; 1842, \$5.93; 1846, \$5.90; 1850, \$5.07; 1854, \$4.86; 1858, \$3.54; 1862, \$4.66; 1866, \$4.13.

Sardis Burchard, of Sandusky, in connection with Richard Sears, of Buffalo, bought the schooner *John Richard*, 39 tons burden, for \$4,000, and by her the first cargo of wheat was shipped from that port to Buffalo, the freight being 16 cents per bushel.

Freight from Buffalo to Detroit, in 1836, by steamer, for heavy goods was 38 cents per hundred weight, and for light, 50 cents. The price of cabin passage from Buffalo to Cleveland was \$6; to Mackinac or the Sault, \$12; to Chicago, Green Bay or St. Joseph, \$20; Buffalo to Detroit, \$8; deck, \$3, and



so in the same proportion to all intermediate ports. The passage by sail craft was much less.

Prices of down freights of Lake Erie, in 1836, from Detroit, Cleveland and all ports on Lake Erie: Flour, 25 cents, Buffalo charges 5 cents per barrel; rye, wheat, and all grain, 8 cents, Buffalo charges 2 cents per bushel; beef, pork, ashes, whiskey, 10 cents, Buffalo charges 3 cents per 100 pounds; skins and furs, 25 cents, Buffalo charges 6 cents per 100 pounds; staves from Cleveland, \$5 per M., Buffalo charges \$1.25 per M. net; staves from Detroit, \$6 per M., Buffalo charges \$1.25 per M. net.

Prices of freight, Buffalo charges of 10 cents per 100 pounds, included on Lake Erie and the upper lakes in 1837, were as follows per 100 pounds.

1837	SAIL VESSELS		STEAMERS	
	HEAVY	LIGHT	HEAVY	LIGHT
From Buffalo to Dunkirk.....	28 c.	36 c.	37 c.	46 c.
Grand River and Cleveland....	34 c.	46 c.	44 c.	60 c.
Maumee River and Detroit....	38 c.	50 c.	48 c.	64 c.
Green Bay and Mackinac.....	95 c.	100 c.	.....	95 c.

All goods for the upper lakes had to arrive at Buffalo by September 15, and for ports on Lake Erie October 15.

Following were the prices of down freight on the Erie canal in 1837: Flour, per barrel, 80 cents; ashes, provisions and whiskey, per 100 pounds, 50 cents; grass seed, per 100 pounds, 60 cents; tobacco, per 100 pounds, 60 cents; corn and wheat, 25 cents per bushel of 60 pounds weight; feathers, furs, and all light articles per 100 pounds, \$1.10; wool and hemp, per 100 pounds, \$1.00.

The rates of fare and transportation on the lakes by the steamboat combination company in 1839 were as follows: Buffalo to Cleveland, cabin fare, \$4; steerage, \$2.50. Detroit, cabin, \$8; steerage, \$3. On freight to Chicago, light, per 100 pounds, 87½ cents; heavy, 62½ cents; barrel bulk, \$1.50. Silver Creek, Dunkirk and Barcelona, 25 cents and 35 cents; Erie, Grand River and Cleveland, 27 cents and 40 cents; ports above

Cleveland to Detroit, 30 cents and 46 cents.

The price of passage and freight from Buffalo to Chicago, from 1838 to 1840, was for cabin passage, found, \$20; steerage passage, \$10; and for freight, 75 cents per 100 pounds for light, and 50 cents per 100 pounds for heavy goods, excepting for a month or so at the close of the season, when freights alone are usually higher. When the business first commenced westward of Detroit, the price of cabin passage and found, to any place on Lake Michigan, was \$30, and freights in proportion.

After 1840, the price of fare and freight by steamboats, fell in a few years to, cabin passage and found, \$12; steerage, \$6; light goods, 35 cents, and heavy to 20 cents per 100 pounds, except late in the fall months, when an advance is usually made in freight alone.

The passenger and freight arrangements in 1841 were published early in the season to continue until November 1. The passenger fare was as follows: Buffalo to Dunkirk, cabin \$2, steerage \$1.50, horses \$2 each. Erie, cabin \$3, steerage \$2, horses \$3. To Conneaut and Ashtabula, cabin \$4.50, steerage \$3.50, horses \$4. Fairport, cabin \$5, steerage \$2.50, horses \$5. Cleveland, cabin \$6, steerage \$2.50, horses \$5. Sandusky, cabin \$7, steerage \$3, horses \$6. Maumee and Detroit, cabin \$8, steerage \$3, horses \$6.

The prices of freight were as here noted: From Buffalo to Dunkirk, heavy 25 cents, light 35 cents per barrel; bulk 38 cents. To Erie, Conneaut and Fairport, 27 cents, 40 cents and 50 cents; to Sandusky and Detroit, 30 cents, 43 cents and 50 cents. Down freight as follows: Flour per barrel, 20 cents; provisions, etc., per 100 pounds, 10 cents; tobacco, per 100 pounds, 15 cents; grass seed, per 100 pounds, 15 cents; ashes, per 100 pounds, 10 cents; wood and peltries, 25 cents.

Passenger rates from Buffalo to ports on Lake Michigan, as follows: To Mackinac, cabin \$16, steerage \$8, horses \$10 each; to Milwaukee, cabin \$20, steerage \$10, horses \$15 each; to Racine, Southport and Chicago, the same.

Prices of freight from Buffalo to Mackinac, 100 pounds, heavy 50 cents, light 75 cents; to Milwaukee, heavy 62 cents, light 87 cents; to Racine, Southport and Chicago, the same; double wagons \$7, single \$5; furniture, heavy, \$1.50. Down freight: Flour, per barrel, 40 cents; provisions, per barrel, 60 cents; ashes, per 100 pounds, 20 cents; hides, each, 15 cents.

There was a lake steamboat combination in 1843 consisting of two lines, one of which was between Buffalo and Detroit, calling at way ports, with daily arrivals and departures, and between Buffalo and Chicago on alternate days. The fares were slightly reduced from the previous season. Cabin passage, Buffalo to Chicago \$15, steerage \$7. Between Buffalo and Detroit, also Toledo, cabin \$6. The basis of the combination was similar to that of former years.

The combination line of boats met with strong opposition from outside boats, causing a reduction in fares, which, for a time, was reduced between Chicago and Buffalo to \$5. Each steamer carried a band of music, with numerous dock runners at all the principal ports, all of which eventually broke up the old line.

The cabin fare from Buffalo to Cleveland was fixed at \$5, to Detroit \$7, and to Chicago, 14; steerage to Detroit \$3, to Chicago, \$7. The price of freight was considered low upon the lakes. From Lake Erie ports to Buffalo, wheat at 4 to 5 cents; flour 16 to 18 cents; pork 25 to 28 cents per barrel; wheat to Oswego, via Welland canal, at 8½ cents; from the upper lakes to Buffalo, wheat, 11 to 12½ cents per bushel, flour, 35 to 37½ cents per barrel according to circumstances.

In 1846 the price of cabin passage from Buffalo to Detroit had fallen to \$6, the reduction being due to competition, which not only affected the cost of fare but led also to frequent tests of speed.

The steamers running from Buffalo to the upper lakes in the latter part of 1847 formed an association, regarding both passenger and freight rates, as follows: cabin fare to Chicago or any ports on Lake Michigan \$10, steerage \$5; to Erie, cabin \$2,

steerage \$1; to Cleveland, cabin \$3, steerage \$1.50; Detroit, cabin \$4, steerage \$2; freight, 50 cents per 100 pounds and \$1 barrel bulk.

After the close of navigation in 1852 travel between Detroit and Buffalo was kept up by a line of stages *via* Chatham, London and Hamilton, the trip occupying usually three days; the fare was \$12, which included all ferryage.

The fare from Chicago to Buffalo was \$19.50. The mails were carried in a separate conveyance. On the opening of the Great Western railway, in 1853, this route was completely broken up, after an existence of twenty-five years.

Lake freights from upper lake ports to Buffalo in 1855 commenced at 18 cents on wheat, and afterwards came down to 16 cents. Quite a fleet of vessels were taken at the latter figure.

#### GROWTH OF PASSENGER TRAFFIC.

In 1845 there were three daily lines of large steamboats leaving Buffalo for Toledo, Detroit and Lake Michigan, as far as Chicago. A careful count of the business done that year makes an aggregate of 93,367 through passengers, 5,369 passengers from way ports, total 98,736. Including other vessels, about 200,000 persons, independent of the crews of the steamboats and vessels, crossed these upper lakes in 1845. And to this great number may be added 50,000 more, passing and repassing on Lake Ontario in various ways, and including those taken to and from the upper lakes in the propellers and vessels which passed *via* the Welland canal; making the total aggregate of all the passengers passing, on all the lakes in 1845, about one-quarter of a million.

Writing of the commerce on Lake Michigan in 1846, James L. Barton says: "I would here remark that so far as steamboats are concerned, owing to the entire want of harbors around Lake Michigan to afford them protection, their whole business is now confined to the western shore of that lake. During the past season, in midsummer, two or three boats touched at Michigan City and St. Joseph. With these ex-

ceptions, Milwaukee, Racine, Southport and Chicago, are the places where they have regularly done business."

*Travel From the South.*—While emigrants constituted the principal passenger business up bound, there was also a fair amount of travel down the lakes. Prior to 1840 there sprang up a considerable traffic between the Southern States and the Atlantic seaboard *via* Chicago. There was a very large increase of fashionable travel from New Orleans to the Northern States, during the hot season of the summer months early in the forties, this route being preferred in consequence of its being more speedy, less expensive, more healthy than the lower route, and affording the traveler a view of the magnificent scenery of the islands and shores of the Great Lakes.

A writer gives this picture of passenger traffic on the steamboat Chesapeake, in 1842: "The Chesapeake posed as the bully boat with the bully crew of the period. She ran on the Chicago line, and in general was crowded with passengers, among whom were the bloods of the country, especially on her down trips. Capt. D. Howe in general spent his winter vacations in New Orleans, and mingled there with the Southerners who usually traveled with him on the lakes in summer. These Southerners would congregate in Chicago in time for the Chesapeake, this boat being well advertised in the South. On these occasions games of brag, where gold coins stood in columns on the saloon tables, were constant, and night suppers of prairie chicken were alike constant. Then was the heyday of passenger steamboating on the Great Lakes."

#### GROWTH OF POPULATION.

From 1830 to 1840 the population of Michigan increased from 31,639 to 212,267 and in 1850 it reached 397,654. It came largely by way of the lakes.

Wisconsin was peopled largely by a thrifty foreign population, during the decade between 1840 and 1850. The population in 1840 was only 30,945; in 1850 it had reached 305,391. It received its citizenship almost exclusively *via* the lakes, but was obliged to wait until Michigan had been at

least partially settled, just as Michigan in time had to wait until the shores of Lake Erie had first been peopled by the emigrants.

The emigrant traffic from Fort Erie (Canada) to western ports was nearly equal to that on the opposite shore, which was chiefly of a foreign class. The tide of immigration rolling westward often caused the transportation facilities of the time to be stretched much beyond the point of safety. Pioneers who came west on the passenger boats of the early fifties and before tell of passengers being packed so closely that it was almost impossible for the crew to do their work. Every boat bound up carried from three to five hundred passengers in the cabins and steerage, while many more than this was not at all unusual. Pioneers tell of going down to the piers at points on the west shore of Lake Michigan to see steamers which brought up 1,300 to 1,500 passengers.

In addition to the boats and lines run in 1845 there was, in 1846, one boat running from Buffalo to Green Bay, and two from Cleveland and Detroit to the Sault Ste. Marie, and one from Mackinac to the Sault for the accommodation of the business then commencing with the copper regions around Lake Superior.

Mr. Barton estimated that on the Great Lakes, in 1846, the aggregate value of commerce was \$81,000,000, distributed as follows: At Buffalo, to and from Erie canal, \$28,000,000; other Buffalo and Black Rock commerce, \$5,000,000; other coastwise commerce, including that to and from connecting canals and railroads, \$33,000,000; commerce on Lake Ontario, \$15,000,000.

In 1846 the value of exports and imports at the principal cities on the lakes were reported as follows: Buffalo, \$49,000,000; Cleveland, \$12,549,000; Toledo, \$9,519,000; Detroit, \$8,705,000; Erie, \$6,373,000; Chicago, \$1,927,000.

The traffic continued to grow until about 1855. There were in that year a large number of steam vessels engaged in coastwise traffic. Among the regular lines in that year was the large through service between Buffalo and Lake Michigan ports,



with intermediate stops. There was a north shore line of five propellers between Buffalo and Detroit. Three propellers plied between Detroit and Dunkirk; three between Cleveland and Detroit; one between Sandusky and Detroit; two between Toledo and Detroit; one steamer between Detroit and Chatham; one between Buffalo and Green Bay; four between Cleveland and Lake Superior; two between Detroit and Port Huron; one between Detroit and Saginaw.

#### BENEFITS FROM THE CANALS.

Lake traffic was wonderfully stimulated by the streams of commerce which poured into it from the canals that had been constructed to various ports. First of all in importance, perhaps, was the Erie canal, completed in 1826. Its beneficial effects were not immediately felt, for in the earliest years of its operation its through east-bound traffic originated chiefly at Buffalo. But the percentage of commerce from Ohio ports grew steadily year by year. Ohio was well settled, but in the interior of the State there was no market for agricultural products; there was no means of transportation to distant Eastern markets. Public sentiment led to the undertaking of canal construction by the State, and three north and south canals soon joined the waters of Lake Erie and the Ohio river. Farming lands within easy access of the canals jumped in value immediately, for here was the desired outlet. Grain and other products began to start east, and a vigorous and growing trade was soon established. The greater part passed to the seaboard *via* Buffalo, but the Welland canal received a fair proportion of the early trade. The completion of the Illinois and Lake Michigan canal to Chicago in like manner added very materially for a few years to the traffic from Lake Michigan.

"Much lake traffic," writes Mr. Barton, in 1846, "passes on the railroad between Buffalo and Albany; *via* Erie, through the Pennsylvania canal; Cleveland and Toledo, through the Ohio and Indiana canals, and Erie and Kalamazoo railroad; Monroe and Detroit, by the Michigan railroad; and yet

more through the Welland canal to Canadian markets; and to New York *via* the Oswego canal. These canals and railroads not merely carry off the down commerce of the lakes, but, like the Erie canal, they furnish a very large amount of up commerce."

#### NATIONAL EXTENT OF LAKE COMMERCE.

The lakes constituted an important link in a trade that was national in extent. Just as the main current of emigration to the west was *via* the lakes, just as the most popular route for east-going travelers was also by way of the great inland seas, so, too, the mighty currents of freight traffic of the country was drawn to this great waterway. Its magnets of cheap transportation drew bulky freight from regions as far in the south as Louisiana, then on the verge of southwestern civilization, and from the east as far as the manufacturing cities of Massachusetts and of the other New England States. New England sent out to the lake regions her manufactures, and received in return the agricultural products and the minerals of the west. Louisiana won by virtue of the transportation facilities of the Great Lakes a rapidly increasing market for her sugar and molasses. Missouri in 1845 contributed 47,170 pounds of lard oil to the lake trade, Kentucky 610,415 pounds of hemp, *via* the Toledo canal; these and other Southern States, a diversified and expanding trade.

#### RUINOUS EFFECTS OF THE RAILWAYS.

Two systems of transportation struggled for recognition and supremacy in the years the United States was building itself into a nation—the canals and the railways. The canals had the advantage of some slight history. The railroads were a complete innovation. The statesmen of the country, beginning with Washington, foreseeing the future magnitude of the growing nation, were earnest in their endeavors to devise and execute a plan for the vast inland commerce of which the country was evidently capable, but the struggling government, rent by contrary views, and engaged with other vital and momentous problems, could

not give the subject its deserved consideration and support. It remained for the States to begin the vast undertakings.

There were rivalries among the seaboard cities, each seeking to gain the Western trade. New York, within comparatively easy access of the magnificently proportioned inland seas, bent her energies to link the waters of the Hudson and Lake Erie. Baltimore, hemmed in by a mountainous background, resolutely adopted the railroad as a passage way across the high lands to the fertile regions beyond. For years the canals had the best of it, and the country was pierced with many water ways, joining the lakes and creating a wonderful commerce.

But steadily the fleetier railroads encroached upon the canals, and when the struggle for survival came the latter were invariably defeated. There was no cessation in the onward strides of the iron track. A maze of railway lines was completed to and beyond the Great Lakes, gridironing the whole inhabited land. The first effects were beneficial to the lakes—they brought traffic and fed the lake tonnage.

A sail vessel carried the first locomotive to Chicago, in 1837, and from that port railways rapidly extended westward through fertile prairies, and brought additional traffic to the lakes.

But early in the fifties the lakes were paralleled by the iron tracks. The lines now forming that part of the Lake Shore road between Toledo and Buffalo, were completed in 1852. The Great Western, through Ontario, was finished in 1854. In a very few years traffic arrangements were so perfected on these new rail lines that the current of commerce was diverted from water to land.

Passenger traffic went first, on account of the quicker time, and the business gained by the roads, when navigation was closed, helped them to develop an all-year traffic. Moreover, the tide of immigration had almost ceased. This diversion of commerce to the railroads was a severe blow to the lakes and to lake interests. Forces were already adjusting themselves to give ample

recompense for the loss, and to direct in new channels the carrying capacities of the inland fleets. The opening of the Sault canal, in 1855, afforded relief. By it, the modern commerce of the Great Lakes began. But the revolution came slowly, and for a few years just prior to the war of the Rebellion the tonnage of the Great Lakes was excessive. Fortunately for this surplus there was an outlet. It was in the passing of vessels down to the sea.

It is, therefore, fitting to note in this chapter upon the growth of traffic, during the period of settlement and until the railways proved successful competitors for the commerce of the West, a brief account of the ships that passed down to the sea.

#### SHIPS THAT WENT DOWN TO THE SEA.

Prior to 1856 few vessels had left the Great Lakes for river or ocean navigation. The schooner *Dolphin*, in 1843, passed down the Ohio canal from Cleveland to New Orleans, laden with white fish. The brigantine *Pacific*, in 1844, took a cargo of wheat and flour from Toronto to Liverpool. The United States revenue cutter *George M. Bibb* left the lakes for New Orleans, in 1845, and the revenue cutter *Dallas* for New York, two years later. The barge *Eureka*, of 350 tons, was an Argonaut, sailing from Cleveland, in 1849, with 59 passengers and a full crew for California, and reaching her destination in safety. The propeller *Ontario*, of 400 tons, in 1850, made a successful passage from Buffalo to San Francisco, and was the first steam vessel to leave the lakes for ocean navigation. Between 1850 and 1856 several sail vessels made successful voyages from Canadian ports on Lake Ontario to Europe.

*Modern Traffic.*—It was during the year 1856 that the first direct clearance was made from Lake Michigan for Europe. The consignor, C. J. Kershaw, of Montreal, hoped to ship a full cargo of wheat from Chicago; but there he could obtain only 5,000 bushels, and was forced to seek the balance (9,320 bushels) at Milwaukee. The steamer *Dean Richmond* (a new vessel) left Chicago about July 14, had her full cargo on the 18th, and sailed for Europe on the 19th,

arriving in Liverpool September 29. The bark C. J. Kershaw, with a cargo of staves and lumber, left Detroit July 22, 1857, and reached Liverpool September 5. She returned to Detroit the following spring. The Madeira Pet, which had come to the lakes from Europe in 1856, sailed with merchandise from Chicago and staves from Detroit in 1857. In 1858 fifteen vessels with lumber, staves and wheat sailed from the lakes for England; of these eleven were from Detroit. In 1859 sixteen vessels left Detroit for Liverpool and London, besides many from other ports, the aggregate being forty-one. In 1860 at least thirty-nine lake vessels passed down the St. Lawrence to the sea coast. Dull business on the lakes, consequent upon the diversion of commerce to the railroads, encouraged this foreign trade. During the war of the Rebellion there was continued demand for lake vessels on the ocean, partially because much of the ocean tonnage had either been destroyed or was employed in the naval service of the government. With the close of the war this exodus of inland craft was checked. The new traffic on the Great Lakes was expanding and requiring greater tonnage.

The traffic of the Great Lakes, as it is known to-day, is mainly a growth of the past thirty years, a growth that has been continuous, fluctuating for a series of a few years only to rise to a higher and broader level during the succeeding series. Trade is no longer of a local character. The Great Lakes belong no longer to the bordering States. They are a vital influence in the life of one nation, a growing and important influence in the life of another nation. They are rising above national lines and becoming one of the most powerful influences in the history of the world. They are giving cheap food to populous Europe, and are making possible an industrial expansion of the most momentous character. The Great Lakes are developing a manufacturing growth in America that is lifting the new continent to a commanding supremacy in the markets of the world. At no time in the history of their commerce has the future

looked brighter than at the close of the season of 1898.

The growth of modern traffic in lumber, in grain, in coal and in iron ore is shown in subsequent chapters devoted to those respective interests.

In conclusion, here may be noted the present volume of lake traffic through the Detroit and St. Mary's rivers.

Regarding the traffic between Lakes Superior and Michigan there are no statistics. Its largest item is the 1,500,000 tons of iron ore annually brought to South Chicago and Milwaukee. Neither are there any comprehensive statements showing the movements of freight between Lake Michigan and the lower lakes, save as it may be estimated from the Detroit passages.

#### *Commerce Through the Detroit River.*—

The growth of commerce on the Great Lakes in recent years is reflected by the amount of traffic passing through the Detroit river. The following figures, taken from the reports of United States engineers stationed at Detroit, indicate this traffic in recent years:

YEAR	REGISTERED TONNAGE	FREIGHT TONNAGE
1881 .....	17,572,240	.....
1882 .....	17,872,182	.....
1883 .....	17,695,174	.....
1884 .....	18,045,949	.....
1885 .....	16,777,828	.....
1886 .....	18,968,065	.....
1887 .....	18,864,250	.....
1888 .....	19,099,060	.....
1889 .....	19,646,000	19,717,860
1890 .....	21,684,000	21,750,913
1891 .....	22,160,000	23,209,619
1892 .....	24,785,000	26,553,819
1893 .....	.....	23,091,899
1894 .....	26,120,000	24,263,868
1895 .....	.....	25,845,679
1896 .....	.....	27,900,520
1897 .....	.....	30,000,000

#### *Commerce Through St. Mary's Canals.*—

The commerce to and from Lake Superior has been tabulated with an accuracy, equal to that of the vessel reports, in the statement published herewith of the traffic through the Sault canals. It is a compre-





# STATEMENT

OF THE COMMERCE THROUGH SAINT MARYS FALLS CANAL FOR EACH CALENDAR YEAR FROM ITS OPENING, JUNE 18, 1855.

Year	Sailing ves- sels	Steam- ers	Un- regis- tered craft	Total Pas- sages	TONNAGE		Pas- senger- s	Coal	Flour	Wheat	Grain, other than wheat	Manu- factured and pig iron	Salt	Cop- per	Iron ore	Lumber B. M.	Sit- ver ore and bul- lion	Build- ing stone	Un- classi- fied freight
					Regis- tered	Actual freight													
1855	(a)	(a)	(a)	(a)	108,396	(a)	4,270	10,880	10,880	(a)	33,098	1,400	387	2,106	1,117	125,000	(a)	(a)	(a)
1856	(a)	(a)	(a)	(a)	101,458	(a)	4,270	10,880	10,880	(a)	33,098	1,400	387	2,106	1,117	125,000	(a)	(a)	(a)
1857	(a)	(a)	(a)	(a)	180,820	(a)	6,050	16,500	16,500	(a)	33,098	1,400	387	2,106	1,117	125,000	(a)	(a)	(a)
1858	(a)	(a)	(a)	(a)	219,819	(a)	9,230	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1859	(a)	(a)	(a)	(a)	352,042	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1860	(a)	(a)	(a)	(a)	403,657	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1861	(a)	(a)	(a)	(a)	276,639	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1862	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1863	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1864	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1865	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1866	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1867	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1868	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1869	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1870	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1871	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1872	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1873	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1874	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1875	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1876	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1877	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1878	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1879	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1880	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1881	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1882	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1883	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1884	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1885	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1886	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1887	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1888	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1889	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1890	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1891	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1892	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1893	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1894	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1895	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1896	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1897	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1898	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1899	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)
1900	(a)	(a)	(a)	(a)	507,431	(a)	8,884	13,850	13,850	(a)	10,500	2,507	950	5,750	2,915	165,000	(a)	(a)	(a)

(a) No record kept until 1864. (c) No record kept until 1881.

(b) No record kept until 1879. (d) None shipped from Lake Superior until 1870.

\* The statement includes the traffic of the Canadian canal since its opening in 1895.

hensive table, showing in detail the growth of the more important articles of commerce since that traffic began, and also the passages and character of craft. It is the best and most satisfactory epitome of the commerce of the Great Lakes that can be compiled. [See opposite page.]

*The Coasting Trade of Ontario, Canada*, which is mainly that of the Great Lakes, has grown rapidly during the past twenty years, as shown by the following statement of vessel tonnage: 1876, 3,360,588 tons; 1877, 3,491,763 tons; 1878, 5,205,538 tons; 1879, 6,158,529 tons; 1880, 7,774,922 tons; 1881, 7,995,898 tons; 1882, 7,864,085 tons; 1883, 7,823,501 tons; 1884, 7,157,144 tons; 1885, 6,460,929 tons; 1886, 6,581,088 tons; 1887, 6,670,488 tons; 1888, 6,484,394 tons; 1889, 6,913,546 tons; 1890, 7,679,890 tons; 1891, 9,679,403 tons; 1892, 9,701,471 tons; 1893, 9,832,803 tons; 1894, 11,299,718 tons; 1895, 10,799,497 tons; 1896, 11,687,217 tons; 1897, 10,995,311 tons.

Vessels arriving at and departing from Canadian ports on inland waters between Canada and the United States in each year since 1867, have been as follows:

YEAR	CANADIAN		UNITED STATES	
	NO.	TONNAGE REGISTER	NO.	TONNAGE REGISTER
1868.....	26,682	4,826,780	13,432	3,896,724
1869.....	22,967	3,576,867	11,082	1,887,612
1870.....	24,558	4,030,768	12,112	2,300,229
1871.....	26,558	5,068,831	15,151	2,941,164
1872.....	21,505	3,798,138	12,164	3,063,318
1873.....	22,491	3,126,579	13,961	2,536,883
1874.....	19,279	2,814,654	12,733	2,533,842
1875.....	15,325	2,235,829	11,882	1,962,418
1876.....	15,392	2,184,790	11,192	1,815,645
1877.....	15,431	2,207,832	13,522	2,238,590
1878.....	18,003	2,955,331	12,508	2,415,175
1879.....	18,122	3,314,829	12,718	2,243,433
1880.....	22,858	4,985,753	11,648	1,805,378
1881.....	20,492	4,029,027	12,197	1,669,068
1882.....	22,252	3,830,109	12,230	1,613,211
1883.....	20,041	3,950,692	13,281	1,847,266
1884.....	19,464	4,058,738	13,349	1,815,987
1885.....	18,926	4,849,856	11,033	1,590,241
1886.....	18,153	4,116,674	12,804	1,807,987
1887.....	18,059	3,931,523	13,726	1,797,039
1888.....	19,567	4,320,402	13,929	1,699,103
1889.....	21,543	5,036,438	14,970	1,721,182
1890.....	24,527	6,000,194	16,774	2,117,621
1891.....	22,002	5,724,339	16,006	2,383,113
1892.....	19,224	5,546,243	15,158	2,393,238
1893.....	19,612	5,108,226	16,022	2,822,697
1894.....	20,939	5,917,145	16,727	3,155,400
1895.....	16,866	5,196,811	15,547	2,927,323
1896.....	16,355	5,967,917	18,827	4,443,732
1897.....	14,171	4,913,143	19,124	6,449,810

## CHAPTER XV.

### EARLY NAVIGATION ON LAKE SUPERIOR.

COMMERCE ON LAKE SUPERIOR RETARDED—THE FUR TRADER AND RECOVERY RUN OVER THE RAPIDS—THE ASTOR, THE FIRST AMERICAN VESSEL LAUNCHED ON LAKE SUPERIOR—OTHER EARLY CRAFT—DISCOVERY OF COPPER ATTRACTS SETTLERS—VESSELS HAULED ACROSS THE PORTAGE—FIRST STEAMER ON LAKE SUPERIOR—SPECULATIVE FEVER—FIRST SHIPMENTS OF COPPER—THE FLEETS INCREASE—BAR AT LAKE GEORGE—TRANSFERRING FREIGHT AT THE PORTAGE.

THE commerce of Lake Superior was [developed long after that of the lower lakes had been established. Settlement was retarded, and the fall of St. Mary's was all but insuperable. In previous chapters the commerce of Lake Superior under French and English rule has been briefly considered. Its development under the

isolating conditions which prevailed prior to the opening of the Sault canal in 1855, constitutes an entity which perhaps entitles it to separate review. Its progress has been well sketched by J. T. Whiting, general agent of the Western Transit Company, Detroit, Mich., whose account was adopted by Charles H. Keep in the latter's "Internal



Commerce of the United States," and which is quite largely followed in the brief account herewith.

A vessel of some forty tons burden, named the *Fur Trader*, was built on Lake Superior for the Northwest Fur Company, in 1812. She was afterward run over the Sault rapids, but sustained such serious damage as to render her useless. She was the first craft that ever hazarded the attempt.

During the season of 1809 the *Recovery* was built by the same company.

A voyage was made to the Sault by the brig *Wellington*, in 1817, commanded by Capt. Alexander McIntosh, and piloted by Capt. James Hacket, of Amherstburg. She took in tow a small vessel of 30 tons burden, named the *Axmouth*. On her arrival there, the *Axmouth* was hauled over the portage, on the Canada side, re-launched into Lake Superior, and delivered over to the Northwest Fur Company. She is said to have been the first vessel hauled over the portage.

Another vessel, named the *Mink*, was on Lake Superior before the war of 1812. She was the second vessel that successfully came over the Sault rapids, an event which took place in 1817. She sustained considerable damage, but was repaired and put into service on the lower lakes. She was a British craft, but was subsequently sold to American parties, and survived for many years afterward.

It is possible that the Northwest Company had no sailing vessel on Superior after the war which closed in 1815. An Act of Congress in 1816, which forbade their doing business within the limits of the United States, led them to sell out to John Jacob Astor, who styled himself the American Fur Company. From 1815 to 1822 Lake Superior was navigated by only one small schooner. In 1822 a schooner bearing the British ensign was sailing on Lake Superior. This vessel was commanded by Lieutenant Bayfield of the British navy, who in that year and the next made an excellent survey and chart of that lake. Bayfield at length became an admiral.

"Point aux Pins, on the Canadian side

of the river, six miles above the Sault," writes Schoolcraft in 1820, "was formerly noted as the site of a shipyard, and had a few buildings to accommodate the workmen, but only the vestiges of these remain. The width and depth of the river at this place must have rendered it a favorable spot for launching vessels. The current is very gentle, and the shore sandy and entirely free from rocks."

*The Astor is Launched.*—About 1834 the American Fur Company decided to build what was then termed a large vessel, for the navigation of Lake Superior. Her timbers were got out at Black River, Ohio, and shipped to the Sault in the schooner *Bridget*. When completed in 1835, under the direction of Ramsey Crooks and Oliver Newberry, she was placed in command of Capt. Charles C. Stanard, who, in after years, became a very popular commander of steamers in the Buffalo, Detroit and Chicago trade. This vessel was named the *John Jacob Astor*, and was the first American vessel launched on Lake Superior. It was while in command of this vessel that Captain Stanard discovered the well-known rock afterward named "Stanard Rock," situated in Keweenaw bay, on which the United States Government has since built, though attended with great cost and difficulty, one of its first-class lighthouses for the protection of all mariners and passengers that have occasion to navigate Lake Superior. Captain Stanard remained master of the *Astor* until the season of 1842, after which Captain J. B. Angus, a well-known navigator of the lake, became master of her, and remained in charge until she was wrecked at Copper Harbor September 19, 1844, while landing a quantity of material to be used in building Fort Wilkins. A storm came up in the night, and she went to anchor and remained for 15 hours, but finally broke loose and went ashore on a cliff of rocks. In this position she was unloaded, and then as the wind changed was blown back into the water again to be dashed against the rocks and broken to pieces.

The American Fur Company built two smaller vessels in the years 1837 and 1838,

one of which, owing to faulty construction, was never launched, while the other, the *Madelina*, was sailed by Captain Angus, and was employed in the fish trade.

The schooner *William Brewster*, of about 70 tons, was launched in August, 1838, and in that fall, fearing she could not be kept profitably employed, she was run over the Sault rapids, and afterward engaged in general business on the lakes. The timbers of the *Brewster* were gotten out at Euclid, Ohio, carried to Sault Ste. Marie, carted across the Portage to the head of the rapids, where they were set up and the vessel finished.

*Discovery of Copper Attracts Settlers.*

—Such was and continued to be the mercantile navy of the waters of Lake Superior until the supposed discovery of copper in working quantities on its shores, about the years 1843 and 1844. This increased the prospective richness of the Lake Superior country, to such an extent that capitalists and explorers began to turn their attention thereto, the principal objective points being in the vicinity of Copper Harbor, on Point Keweenaw, and in the interior some fourteen miles from the mouth of the Ontonagon river. The early pioneers were obliged to make the trip from Sault Ste. Marie to Copper Harbor and Ontonagon in birch-bark canoes, Mackinac boats or bateaux, the latter craft having been introduced on Lake Superior from the river St. Lawrence by the Hudson Bay Company, for the purpose of moving their supplies, furs, etc., from one extreme end of that lake to the other.

These boats were all open, without decks of any kind, and were propelled by paddles, oars and sails, as circumstances required. They followed the coast and its indentations, made their landings upon the shores for the purpose of allowing crews and passengers to camp, sleep, and prepare their food, as well as to seek shelter by day or by night from the storms with which they were unfitted to cope, and which were frequently encountered.

*Vessels Hauled Across the Portage.*—This mode of traveling, however, was tedious and distasteful to the copper seeker,

and in 1844 and 1845 vessel owners began to seek employment and profit by hauling vessels across the Portage at Sault Ste. Marie, a distance of about one mile, and in July, 1845, the mercantile navy of Lake Superior was increased by several vessels, among which were the schooners *Algonquin*, 70 tons; *Uncle Tom*, 40 tons; *Swallow*, 70 tons; *Ocean*; *Chippewa*, 40 tons; *Siskowit*, 40 tons; *Merchant*, 70 tons; *Fur Trader*, 40 tons, and *White Fish*, 50 tons, the latter being owned by the Hudson Bay Company. The *Merchant* was lost in June, 1847, while temporarily in command of Capt. Robert Brown, of the *Swallow*, with several passengers aboard.

The propeller *Independence*, of about 260 tons burden, and commanded by Capt. A. J. Averill, of Chicago, was the first steam craft that ever disturbed the waters of Lake Superior. She was launched in 1845. The schooner *Napoleon*, in the neighborhood of 200 tons, built at Sault Ste. Marie for the account of Oliver Newberry, of Detroit, was also put in commission in the same fall (1845). This propeller's maximum speed in good weather is said to have been four miles an hour.

As the business of the country demanded, after 1845, other craft were hauled across the Portage and added to the fleet.

*First Steamer on Lake Superior.*—Lewis Marvill, of Parkville, Mich., described in a newspaper article, published in 1882 and re-printed in the "Michigan Pioneer Collections," the first trip by steam to Lake Superior. It occurred in 1845. Mr. Marvill, in substance, said: "In the spring of 1845 a little tub of a sloop of about 15 tons was transformed at Detroit into a fore-and-aft, called the *Ocean*. The top-sail schooner *Merchant*, of about 75 tons, and the *Ocean* were both fitted out for the Lake Superior trade. I shipped on the *Merchant* and we took on board all the necessary material for taking both vessels over the rapids. We fell to and jerked the *Ocean* over in short meter, and then tackled the *Merchant*. Both were taken over on rollers, the same as buildings are sometimes moved. When we had the *Merchant* about half way across, the steamer *Independence*

arrived from Chicago. A part of the crew of the Merchant quit and left her, and I secured the berth of porter on the Independence. In about seven weeks she was hauled over and launched in the river above the falls. There were many delays and it was quite late in the fall when we sailed. We steamed up the lake, and the first place we touched at was Copper Harbor, or Fort Wilkins, where we found a small garrison and several huts. The next in order was Eagle Harbor, where there were a few prospectors, and then on to Eagle River, where we discharged most of our cargo, but before we could throw off some 50 kegs of powder the wind raised from the northwest, and kicked up such a sea that we had to weigh anchor and leave. We shaped our course for La Pointe, but had to turn about and run before the wind. We made for the lee of Keweenaw point, and laid by for three or four days. We again set sail, reached Eagle River and steamed to La Pointe, where we gave the natives a dreadful scare with the appearance of our craft, and the noise of our steam whistle. We returned to the Sault, and laid up for the winter in company with the Ocean, 15 tons; the Chippewa, 20 tons; the Algonquin, 30 tons; the Swallow, 40 tons; the Merchant, 75 tons; the Napoleon, 150 tons; and the Independence, 365 tons. The first steamer that ever plowed Lake Superior thus ended her memorable trip. We found below the falls the steamer Baltimore, which was hauled over in the winter or early spring. The Napoleon was fitted up with engines the next summer. The Julia Palmer was not the first, nor second, and I doubt the third, steamer on Lake Superior."

The Julia Palmer had often been named as the first or second steamer on Lake Superior. She was a remarkable boat in at least two ways. She was built by Ransom Palmer and named after his wife. She was the first steamer that went over the Sault, as the Independence was the first propeller. Mr. Palmer went to great expense in making perfect chains and anchors, with extra strong ground tackle. Many of Mr. Palmer's friends thought at the time that he

was wasting money in thus making such expensive anchors and tackle, but his wisdom was fully justified by his subsequent experience with his schooner, for this extra strength in her chains and anchors saved her from being wrecked twice, once in the northern part of Lake Superior and once at Buffalo during the fearful storm of October 18, 1844, a full account of which may be found in the chronology for that year.

*The Speculative Fever* in the copper mining regions was thus described in 1847 by Charles Lauman: "The number of mining companies, which purport to be in operation on the American shore of Lake Superior and on our islands, is said to be one hundred; and the number of stock shares is not far from three hundred thousand. But notwithstanding all the fuss that has been, and is still made, about the mining operations here, a smelting furnace has not yet been erected, and only three companies, up to the present time, have made any shipments of ore. The oldest of these is the Lake Superior Company; the most successful the Pittsburg and Boston Company; and the other is the Copper Falls Company, all of which are confined in their operations to Point Keweenaw.

"This point is at present the center of attraction to those who are worshipping the copper Mammon of the age. It is a mountainous district, covered with a comparatively useless pine forest, exceedingly rocky and not distinguished for its beautiful scenery. As to the great majority of the mining companies alluded to, they will undoubtedly sink a good deal more money than they can possibly make; and for the reason that they are not possessed of sufficient capital to carry on the mining business properly, and are managed by inexperienced and visionary men—a goodly number of whom have failed in every business in which they ever figured, and who are generally adventurers, determined to live by speculation instead of honest labor. The two principal log cabin cities of Point Keweenaw are Copper Harbor and Eagle River. \* \* \*

"Altogether perhaps five hundred miners and clerks may be engaged on the



whole Point, while about as many more, during the summer, are hanging about the general stopping places on the shore, or the working places in the interior. This brotherhood is principally composed of up-start geologists, explorers and location speculators. From all that I can learn, about the same state of things exists on the Canada side of the lake. Twenty companies are already organized for that section of country, the most promising of which is the Montreal Mining Company; but not a pound of ore has yet been smelted or taken to market." \* \* \*

The United States Government leased the lands, at that time giving a person a lease for three miles square, subject to paying 6 per cent. of the mineral taken out.

*First Shipments of Copper.*—John Hays, of Cleveland, Ohio, purchased three of these sections, one at Copper Harbor, one at Eagle Hill and one on Portage Lake. He formed what was called the Pittsburg & Boston Mining Co. Took nine men in the spring of 1844 and found the famous black oxide vein at Copper Harbor. Late in November, 1844, he found "Cliff Mine," thirty miles west of Copper Harbor. In the spring of 1845 he opened the veins of mineral at Copper Harbor and took out 26 tons of black oxide, and shipped it to Roxbury, Mass., where it was converted into blue vitriol. In the same spring he opened at Eagle River a vein on the top of a mountain, two miles south of Lake Superior. He went to the base and removed the rock and found about six tons of pure metallic copper. One piece weighed 3,100 pounds. Digging down 14 feet they found one piece of copper which weighed 14 tons. Driving into the mountain 75 feet they found a mass of pure copper, which weighed 81 tons. In the winter of 1846 they took out \$60,000 worth of copper. This mine was worked 12 years and declared \$2,618,000, in dividends, making dividends eight years before any other mine.

*The Fleets Increase.*—At intervals prior to the opening of the Falls canal at Sault Ste. Marie in 1855, the propellers Manhattan and Monticello, the schooner George

W. Ford, the propeller Peninsula, and the side-wheel steamers Baltimore and Sam Ward, were added to the Lake Superior fleet. In the meantime the schooner Napoleon had been converted into a first-class passenger propeller, about the year 1850. The foregoing sail vessels and steamers ranged from about 25 to 500 tons burden.

One of the Lake Superior pioneers of 1845 made his first trip in July of that year on board the schooner Chippewa, 25 tons burden, commanded by Thomas Clark, sailed by himself and one man, who officiated in the capacity of mate, deck hand and cook. At the time there were some forty passengers on board the vessel, among whom was the late Hon. David Henshaw, of Boston, president of one of the first copper mining companies organized (the Boston and Lake Superior Mining Company), and formerly Secretary of the Navy. The passengers were obliged to feed themselves and sleep the best they could, Mr. Henshaw occupying the captain's berth in the cabin, while the balance of the passengers slept, as circumstances permitted, in the hold of the vessel or on deck.

Coincident with the building of the Astor on Lake Superior, in 1834, the American Fur Company also built a brig, the Ramsey Crooks, as a connecting link in their trade between the waters of Lake Erie (Detroit being the principal point) and Lake Superior, *via* the Portage at the "Soo." That vessel, with the schooner General Warren, built about the same time and owned by the late Dr. John L. Whiting, of Detroit, with the exception of an occasional steamer going to Sault Ste. Marie with troops and government supplies for Fort Brady and Fort Wilkins, formed the only water connection between Lake Superior and the lower lakes until after the discovery of copper. This warranted the placing of the side-wheel steamer Detroit, owned by the late Capt. E. B. Ward (then of St. Clair, Mich.), on the route between Detroit and Sault Ste. Marie, and in 1845 she commenced making regular weekly trips.

In the spring of 1846 the steamer Ben. Franklin was put on the route, where she continued to run until 1850, when she was

wrecked at Thunder Bay, Lake Huron. These were followed at intervals, as the exigencies of the trade required, by the steamers *Northerner*, *London*, *Tecumseh*, *Albany*, *Illinois*, *E. K. Collins*, *North Star*, and the propellers *Goliah* and *Peninsular*, as well as two small steamers, the *Gore* and *Plowboy*, which were put on the Canadian route as between Owen Sound (Georgian Bay) and the Sault.

*Bar at Lake George.*—These as a rule were all light-draught vessels, and had comparatively little difficulty in navigating the St. Mary's river as it then was, the greatest obstacle being found on that part known as Lake George, where the channel ran in close proximity to the Canadian shore, and in which about two miles from the western end of the lake a bar existed that at all times caused serious trouble, so much so that the American Fur Company, after the building of the brig *Ramsey Crooks*, in the then absence of tugs or other steam assistance, was forced to build a crib on either side of the bar, for the purpose of heaving the vessel over it and at times lightering her, again transferring the freight by small boats or scows to the vessel after getting her over the bar into deep water.

This same pier, being kept in repair, was used more or less for the same purpose by other vessels until the deepening of a more direct channel through Lake George by the United States Government after the opening of the Sault canal in 1855.

*Transferring Freight at the Portage.*—With a view to showing the extent of the transportation of freights, baggage, mining company supplies, etc., between Lake Huron, the Sault river, and Lake Superior, it may be here well to state that the late Sheldon McKnight, of Detroit, holding an official position from the government as connected with permits for the exploration of the copper lands of Lake Superior, and residing at Sault Ste. Marie, during the years 1844 and 1845, did all the transferring of such articles across the portage thereat by means of one old gray horse and cart.

In the spring of 1846 the volume of business seemed to justify Mr. McKnight in building a warehouse and dock below the

rapids of Sault Ste. Marie to better facilitate the handling of freights. During 1846 and 1847 this was done by the firm of L. W. Tinker & Co. (composed of L. W. Tinker and Sheldon McKnight). The volume of freight had so increased in the meantime that they were obliged to add to the old gray horse and cart two double teams.

In the spring of 1848 the firm of L. W. Tinker & Co. having been dissolved, Mr. McKnight employed J. T. Whiting, then of Detroit, to take charge of the business. Mr. Whiting found himself again obliged to increase the teaming facilities by adding thereto two more two-horse wagons and the necessary horses.

In 1850 the business had increased to such an extent that additional facilities for carrying freights in either direction across the portage induced Mr. McKnight to procure a charter for the formation of the Chippewa Portage Company, under which a light tram road was built, running across the portage, operated by horses, and connecting the warehouses and docks at either end thereof, which, with sundry changes in the location of the tram, in consequence of the building of the canal, continued in use most of the time by day and by night through each season of navigation until the completion of the canal of 1855. By this tramway under favorable circumstances the company could move from 300 to 400 tons of freight, including mass copper, every twenty-four hours.

About 1851 the firm of Spaulding & Bacon, general merchants of Sault Ste. Marie, with a view of accommodating business, brought to them by the steamer *Northerner*, running from Cleveland and connecting with the propeller *Manhattan*, on Lake Superior (said two boats being owned by Samuel W. and A. A. Turner, of Cleveland, Ohio), placed teams on the route across the portage, but after some two years abandoned the same, and all such freights, as well as those carried by the steamer *E. K. Collins* on the Lake Huron route, and the side-wheel steamer *Sam Ward*, on Lake Superior, were diverted into the hands of the Chippewa Portage Company, and there remained until the opening of the canal.

## CHAPTER XVI.

### THE CONVENTION OF 1847.

PRESIDENT POLK VETOES THE RIVER-AND-HARBOR BILL—LAKE PORTS SUFFER—INDIGNATION THROUGHOUT THE WEST—CONVENTION AT CHICAGO CALLED TO EXPRESS DISAPPROVAL—ITS LARGE ATTENDANCE—DELEGATES FROM NINETEEN STATES—DISTINGUISHED DELEGATES—RESOLUTIONS ADOPTED—ADDRESS OF JOHN C. SPENCER—HORACE GREELEY'S REPORT—THURLOW WEED'S DESCRIPTION—EDITOR DEBOW'S REVIEW—BENEFICIAL RESULTS AFTER THIRTEEN YEARS—PRESENT BROAD POLICY OF IMPROVEMENTS.

**P**RESIDENT POLK, on the 3d day of August, 1846, vetoed the River-and-Harbor Bill, which, among other items, appropriated about a half million dollars for the improvement of numerous harbors and rivers lying within the region of the Great Lakes.

In his message to Congress he set forth his reasons for his disapproval, as follows: "Some of the objects of the appropriation, contained in this Bill, are local in their character, and lie within the limits of a single State; and though in the language of the Bill they are called *harbors*, they are not connected with foreign commerce, nor are they places of refuge or of shelter for our navy or commercial marine on the ocean or lake shores. It would seem the dictate of wisdom under such circumstances to husband our means and not waste them on comparatively unimportant objects."

The proposed appropriations included the following:

Port Ontario harbor.....	\$10,000
Oswego harbor.....	10,000
Big-Sodus bay, Lake Ontario.....	5,000
Little-Sodus bay.....	5,000
Genesee river.....	20,000
Oak Orchard harbor.....	7,000
Dredge boat, L. Ontario and St. La'ce river..	20,000
Buffalo harbor.....	15,000
Dunkirk harbor.....	15,000
Erie harbor.....	40,000
Grand-River harbor.....	10,000
Ashtabula harbor.....	10,000
Cleveland harbor.....	20,000

Huron harbor.....	5,000
Sandusky City.....	14,000
River Raisin.....	13,000
Lake Erie, dredge boat.....	30,000
St. Clair flats.....	40,000
Grand-River harbor, Lake Michigan.....	10,000
Mouth Kalamazoo river.....	20,000
St. Joseph harbor.....	10,000
Michigan City harbor.....	40,000
Racine, Little Fort, Southport, Milwaukee, Chicago, dredge boat.....	80,000
Hudson river.....	75,000

#### *Indignation Throughout the West.*—

This action by the chief executive created a profound sensation throughout the United States, especially in the region of the Great Lakes and in the Mississippi Valley, which had also suffered by the veto. Public disapproval was strongly expressed. It culminated in the River and Harbor Convention, held at Chicago, July 5, 1847. The *St. Louis Republican*, early in September, in commenting upon the public feeling in the West, urged that the men in office should be convinced by the moral force of the popular will "that this government was framed for the benefit of the people," and suggested, as the most effective means of obtaining and embodying the opinions of the great mass of people, that a convention be held at some convenient point. The Chicago and other papers quickly approved the suggestion. A preliminary meeting was held at Rathbun's Hotel, New York, Monday evening, September 28, 1846, at which William Duane Wilson, of Milwaukee, pre-



sided. Resolutions were adopted, approving the recommendation of the Western press for a convention, and proposing Chicago as the most suitable point. Committees were appointed to carry out the objects of the meeting. Subsequently citizens' meetings were held at Chicago, Buffalo, and many other cities, at which vigorous resolutions were adopted. Everything promised a great and successful convention.

*The Convention Opened.*—It opened at Chicago, July 5, 1847. There were present, besides many others, 2,315 enrolled delegates representing the following 19 States: Connecticut, Florida, Georgia, Indiana, Illinois, Iowa, Kentucky, Maine, Massachusetts, Michigan, Missouri, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, South Carolina and Wisconsin.

Of this great mass of delegates only 86 represented Chicago. A demonstration in the form of an immense parade was presented by Chicago, which at that time claimed a population of only 16,000. In its description of the event, the Chicago *Evening Journal* said: "At an early hour the streets were thronged with strangers, the gray-haired and the young, the matron and the maid, the hope and promise of a coming day, and the veteran of his three score and ten; flags were flying from every steamer and sail-vessel in port, blasts of martial music swelled ever and anon upon the air, and the deep notes of artillery boomed over the prairie and the lake. Joyous faces were everywhere, and heaven itself smiled upon the scene. At nine o'clock the roar of cannon and the roll of drums announced the hour for the formation of the procession. The Fort, Water, Lake and Washington streets were alive with the military, the fire-companies and the civic procession. Column after column and line after line, away they moved to the rendezvous; banner after banner, band after band, host after host. It was a glorious, almost a sublime, spectacle; worthy the times ere Babel left the world. Five thousand men—five thousand freemen in solid column moving on, not to carnage, but to the ex-

pression of a great truth, the pleading of a great necessity, the arguing of a great cause.

"Never was the birthday of our National independence more befittingly celebrated than on this day—to give freedom and tone to the pulse of commerce—to cheer the mariner on his airy shrouds—to brighten the homes and the hopes of thousands. Is there, *can* there be a nobler cause under which freemen can rally in behalf of the State? That vessel with sails all set and signals flying to the breeze, drawn by eight horses and manned throughout by sailors, bore a banner eloquent of the object of this convention. It was a sea roughened by storms, that lifted the waves to the very heaven in the distance; but hard by was a harbor where 'the winds and the waves lay together asleep,' and a lighthouse lifting its star of joy and hope upon the rocky cliffs. Over all was inscribed the significant words, 'What we want.' Ah! It was a display, such as the West has never before beheld; but we value it not for the badges, and banners, and pageantry—not for its array of military or its blasts of music, but for the community of interest and of feeling that it indicated, thus gathering from every quarter of a Republic, wide as the New World and comprehended by two oceans."

*Distinguished Delegates.*—Escorted by this procession, the delegates proceeded to the court house square, where the convention, which lasted three days, was held. James L. Barton, of Buffalo, was temporary chairman, and Edward Bates, of Missouri, permanent chairman. Among the delegates were many distinguished statesmen. Abraham Lincoln was there as a delegate from Sangamon county, Illinois. Among others were Governor Bebb and Thomas Corwin, of Ohio, Schuyler Colfax, of Indiana, Horace Greeley and Thurlow Weed, of New York, a half dozen governors, congressmen by the score, almost every public-spirited man on the Great Lakes, regardless of party affiliations. Letters were read from Senator Thomas H. Benton, of Missouri, from Daniel Webster, from Henry Clay, from Martin Van Buren,

from Thomas Cass and others, regretting their absence.

*Resolutions Adopted.*—Resolutions were adopted, submitting the propositions, which the convention believed should actuate the government, and among others the following:

That the general government, by extending its jurisdiction over lakes and navigable rivers, subjecting them to the same laws which prevail on the ocean, and on its bays and ports, not only for purposes of revenue, but to give security to life and property, by the regulation of steamboats, has precluded itself from denying that jurisdiction for any other legitimate regulation of commerce. If it has power to control and restrain, it must have the same power to protect, assist, and facilitate; and if it denies the jurisdiction in the one mode of action, it should renounce it in the other. That, in consequence of the peculiar dangers of the navigation of the lakes, arising from the want of harbors for shelter, and of the western rivers from snags and other obstructions, there are no parts of the United States more emphatically demanding the prompt and continued care of the government to diminish those dangers, and to protect the life and property exposed to them; and that any one who can regard provisions for those purposes as sectional or local, and not national, must be wanting in information of the extent of the commerce carried on upon the lakes and rivers, and of the amount of teeming population occupied or interested in that navigation. That, having regard to the relative population or to the extent of commerce, the appropriations heretofore made for the interior rivers and lakes, and the streams connecting them with the ocean, have not been in a just and fair proportion to those made for the benefit of the Atlantic coast; and that the time has arrived when this injustice should be corrected, in the only mode in which it can be done, by the united, determined, and persevering efforts of those whose rights have been overlooked. That, independent of this right to protection of "commerce among the States," the right of "common defence," guaranteed by the Constitution,

entitles those citizens inhabiting the country bordering upon the interior lakes and rivers to such safe and convenient harbors as may afford shelter to a navy, whenever it shall be rendered necessary by hostilities with our neighbors; and that the constructions of such harbors can not safely be delayed to the time which will demand their immediate use.

*Address of John C. Spencer.*—One of the notable addresses of the convention was made by John C. Spencer, of New York. It was delivered immediately after the reading of the report of the committee on resolutions. Quotations from the speech are as follows:

The propositions submitted by the committee state that there are peculiar dangers in the navigation of the lakes from the want of harbors, and of many of our rivers from snags and other obstructions. To such an audience, and at such a place as this, it would be a mere waste of time to dwell on these dangers. But as these remarks may reach others not so well informed, allow me to make some brief quotations from a report of the brave, gallant, and lamented Captain Williams, who fell so nobly at the taking of Monterey, made by him in 1842, to the chief of the Topographical Bureau: "Chicago," he says, "is the only harbor on that lake (Michigan), the shores of which comprise a development of coast of about nine hundred miles. Milwaukee affords no shelter for vessels during a storm, and even in calm weather it is difficult of access. At the mouth of Kalamazoo river, a large ship (the Milwaukee) was driven from its moorings, where it was taking in a cargo of wheat, and wrecked in the vicinity, with the loss of nine of her crew. Thus, from the time a vessel leaves Chicago, she has no place of shelter till she reaches the northern outlet of the lake at the straits of Mackinac, or by taking refuge under the lee of the islands at the northern part of the lake. After passing the straits of Mackinac, proceeding eastward, we enter Lake Huron, which extends two hundred and twenty miles in a southwesterly direction, yet upon the whole coast there is

not a single harbor construction effected." We all know the difficulties of the flats in the St. Clair river, which so seriously impede navigation, and which can be so easily made navigable. From the head of Lake Erie to Buffalo, a distance of three hundred and thirty miles, there is but one place of security for vessels during a gale, and that is at Erie, where they may lie under the lee of the islands. All here know that vessels, during storms, have been driven back to this place for the whole distance from Buffalo, in consequence of the hazards of entering the nominal harbors on this lake.

Captain Williams remarks that there is greater danger in navigating the lakes than the ocean, because "upon the lakes there is at all times a dangerous proximity of coast, upon which vessels are liable to be thrown in a long-continued gale, while on the ocean there is room to drift until the storm be over." The only remedy is obviously harbors with spacious entrances. Not having accurate information of the details, I can only allude in general terms to the immense losses of vessels and property, and the destruction of human life, which annually occur, particularly during the latter part of the season of navigation. I have heard it estimated that the value of property thus lost, in five years, would improve all the harbors on the lakes to the necessary extent. This is, in itself, sufficiently afflicting; but what shall we say of that neglect which consigns to watery graves the gallant sailors whose exposure to accidents is always so great and imminent? I will not trust myself to speak on this point, for fear that I may forget the decorum due the occasion. But I commend it to the consideration of all who have human sympathies. The amount of the trade carried on upon the lakes west of Buffalo has been the subject of some inquiry by Colonel Abert, the distinguished and very able chief of the Topographical Corps, in pursuance of a suggestion which I made to him when we were officially connected. In his last report on the subject, made November 1, 1845, he estimates from returns made to him, that the import and export trade of the various ports on the lakes was one hundred million

dollars. This estimate does not include Lake Ontario nor Lake Champlain.

The President of the United States, in his message of December, 1846, states the value of all the exports of the United States at \$102,141,893. It is by such comparisons only that we can form an idea of the vast amount of this portion of our internal commerce. Is it not an interest demanding, in tones which can not be disregarded, the equal and just protection of the government? A report of Colonel Abert, made to Congress in December last, of all the appropriations made since 1806 for roads and the improvement of harbors and rivers, shows an aggregate of \$17,199,000, of which \$2,861,964 were for the harbors of the lakes and the improvement of the rivers at the northwest—about one-sixth of the whole. It is needless to speak of the gross inequality of this apportionment of common funds to those who know the vast and teeming population which is occupied or interested in the navigation of the Western lakes and rivers.

*Horace Greeley's Report.*—Horace Greeley reported the convention for the New York *Tribune*. He thus begins his interesting letters under date of July 5: "Chicago has been filling up with delegates to the People's Convention for the last ten or fifteen days, but it was not until Saturday that the pressure became burdensome. When we arrived on the Oregon, at sunrise, yesterday morning, there was scarcely a spare inch of room in any public house save in a few bedrooms long since bespoken. But the citizens had already thrown open their dwellings, welcoming strangers in thousands to their cordial and bounteous hospitality; the steamboats as they came in, proffered their spacious accommodations and generous fare to their passengers during their stay; and though four or five boats full freighted came in yesterday, and two more, with a thousand or fifteen hundred each, came in this morning, I believe there are none left in doubt as to their chance of shelter to-night at this present writing. At all events the people of Chicago have earned a noble reputation for hospitality and public spirit. The citizens had provided a



spacious and beautiful tent, about 100 feet square, pitched in an open square near the center of the city, radiating from a tall pole in the centre, and well provided with seats. It holds about 4,000 persons comfortably. The rest of the gathering were constrained to look in over the heads of those seated."

Mr. Greely makes this mention of a then obscure congressman from Illinois: "In the afternoon, Hon. Abraham Lincoln, a tall specimen of an Illinoisan, just elected to Congress from the only Whig district in the State, was called out, and spoke briefly and happily in reply to Mr. Field. As he closed, the committee came in, and through its chairman, Hon. J. C. Wright, reported a series of fifteen resolutions, which were read by Charles King, of New Jersey, and advocated in a most able and interesting speech by Hon. John C. Spencer, of New York—a constitutional argument, evincing deep research and great power."

The distinguished journalist concluded his letter of the third and last day in this fashion: "Thus has met, deliberated, harmonized, acted, and separated, one of the most important and interesting conventions ever held in this or any country. It was truly characterized as a Congress of Freemen, destitute of pay and mileage, but in all else inferior to no deliberative body which has assembled within twenty years. Can we doubt that its results will be most beneficent and enduring?"

*Thurlow Weed's Description.*—Another noted newspaper writer in attendance was Thurlow Weed, editor of the *Albany Evening Journal*. Elsewhere in this volume liberal quotation is made from his description of the trip on the lakes to and from Chicago. A few brief extracts from his report of the convention are here added: "Let me here say that the firemen's display in this infant city to-day excited universal admiration. I never saw anything got up in better taste. The companies were in neat uniforms. Their machines were very tastefully decorated. There was also a miniature ship, manned and full-rigged, drawn by 12 horses, in the procession. While moving, the crew on board the Convention made, shortened and took

in sail repeatedly. This is undoubtedly the largest deliberative body that ever assembled. In looking around the sea of faces turned toward the chair, I recognize, from various parts of the Union, men of distinguished talents. Among the most prominent are Senator Corwin and Governor Bebb, Ex-Governor Morrow, of Ohio, Andrew Stewart, Joseph R. Ingersoll, of Pennsylvania, Thomas Butler King, of Georgia. This convention was composed of enlightened, discriminating men. Its action was deliberate, but emphatic, and can not fail to be effective. I venture to predict that no more Harbor-and-River Bills will be vetoed or 'stolen.' The convention adjourned with more harmony, if possible, than it commenced. Never have we witnessed such a harmonious meeting, from beginning to end. Its proceedings have been worthy any people and any cause. And the interest of the public was continued throughout all the sittings. Up to the last hour the crowd was a dense one, and every delegate stayed to the end. This convention must rank as one of the most respectable, and we hope it will prove one of the most useful, ever assembled on the continent. This is a strong expression, we know. But we ask those who may be inclined to doubt it, to first hear before they judge."

*Editor De Bow's Review.*—Everywhere throughout the country the convention was ardently discussed. The power vested in the United States Government was still a mooted and vexatious question. The issue was largely argumentative, but the practical side had already appealed strongly to the common sense of the people. A good example of this public discussion was an article appearing in 1848 in De. Bow's magazine, a commercial monthly published at New Orleans. It is valuable as an index of advanced public opinion a half century ago, in matters relating to improvements on the Great Lakes, and is therefore liberally reproduced herewith:

"The proceedings of the great convention at Chicago last summer of Friends to River and Harbor Improvements by the Federal Government have been fully spread before the country, and all who chose to become

acquainted with them will have done so ere this article is printed. The grounds of agreement and of difference among those who attended the convention, though not very clearly defined in the proceedings there had, are tolerably obvious to the practical observer. On the one hand, the bare assemblage of the convention—especially when we consider how numerous it was attended, from what distances and what men—affirms the duty of the Federal Government to do something in the premises, and the inference can hardly be deemed a forced or far-fetched one, if we say that it affirms farther, the duty of doing something more than has hitherto been done.

“For, assuredly, the citizen who believes that our rulers have done and are doing all that is fairly incumbent on them with regard to Rivers and Harbors, will have slender temptation to spend time and money in attending a convention at a point remote from his residence to consider the subject of River and Harbor Improvements and memorialize Congress concerning them. For it is not, surely, to be presumed that honorable gentlemen would attend such a gathering with the sole purpose of embarrassing its deliberations and distracting its councils.

“The fact, then, that some five to eight thousand citizens, including many of the most eminent and the most worthy, many from localities more than a thousand miles distant, convened at Chicago on the 5th of July, 1847, to deliberate and act on the subject already stated, is in itself of decided significance, and the conclusions of a body so constituted can hardly fail to exert a palpable influence on the public sentiment and legislation of the country.

“These conclusions are clearly and forcibly set forth in the resolutions of the convention, mainly drawn by the Hon. John C. Spencer, but agreed on first by an able committee of two persons from each State and Territory represented—about thirty in all—selected in nearly equal numbers from the two great political parties, and whose unanimous report was affirmed with nearly equal unanimity by the convention. The resolutions, so drawn and passed, embody

an argument in support of the constitutionality and justice of a comprehensive and vigorous prosecution of river and harbor improvement which has rarely been excelled if ever equaled.

“On the other hand, it cannot be denied, and need not be disguised, that differences of opinion with regard to the proper extent and limitations of national river and harbor improvement were developed at this convention; and these differences we now propose to consider.

“On the side of a liberal and comprehensive appropriation of the public moneys to the improvement of rivers and harbors, there appears to be no disagreement, no hesitation. The resolutions of the convention state the views taken on that side more clearly and forcibly than we could express them in so few words. Briefly, however, it is maintained on that side, that the Federal Government ought to prosecute the improvement, for purposes of commerce, of the harbors which line our coasts (whether seaward or inland), and the more important rivers within our national limits, so far as the state of its finances will permit, and so far as the common interest and general welfare of the whole people shall seem to demand. But to this end it is not deemed essential that each particular river or harbor improvement shall be essential to the well-being of the entire people, any more than that each ship-of-war constructed and maintained, or soldier employed and paid by the government, shall have been engaged in the defense of the whole country.

“In the narrowest view, it may be said that the safe and easy navigation, even of the Mississippi, is of no moment to the people of Vermont; while there is a larger and truer aspect, wherein whatever increases production, diffuses wealth and facilitates intercourse in any section of the Union, is desirable and beneficent to every portion of it. But admit that the rendering navigable, so far as may be, of a single river like the Illinois, or making accessible and safe the single harbor of Chicago, may not be of obvious interest to the whole country; still, the simultaneous improvement of all such rivers and harbors, so far

as a provident statesmanship and wise economy would justify, may be the clear dictate of National policy and public good. This regarded, each single improvement appears but a link in a golden chain of benefits and blessings, admirably calculated to bind together, indissolubly, the States composing this vast Republic.

"On the other side, the agreement on any general principle—much less on any clear line of policy—is not obvious, as a brief glance at the indications afforded at Chicago will show. For example—Colonel Benton, by letter, denounces vehemently the proneness to importune Congress to aid in the furtherance of 'local or sectional objects,' yet strongly affirms the constitutionality and propriety of a national canal, from Lake Michigan to the Mississippi; and, of course, of other works of like character and importance.

"Governor Wright, by letter, has like fears of the diversion of the national funds to objects purely local, but is favorable to harbor improvements at those points 'where the convenience and safety of lake commerce' demand them. River improvements afford to his mind a subject of far greater difficulty; yet he has no doubt at all that appropriations for some river improvements are constitutional, while others are not. The line of distinction he indicates, without positively affirming it, is this: 'Where commerce upon a river already exists, and is regularly carried on in spite of the obstructions sought to be removed,' there improvements may be deemed constitutional; in other cases, not. But finally, Mr. Wright concedes that 'this is not a sufficient dividing line for practical legislation,' but he favors us with no other.

"Mr. David Dudley Field, of New York, in a speech before the convention, controverted what is termed the 'general welfare' or 'lax construction' doctrine with regard to internal improvement, and has, since his return, written out and published his remarks, being moved thereto, it appears, by a pressing note from the editor. Having listened to that speech when delivered, we regret our inability to identify the uttered remarks with the printed essay,

and the more that the speech seems to have suffered in cogency without gaining in perspicuity in the transfer from Chicago to New York, and from living breath to inert metal. Mr. Field flatly contradicts Colonel Benton with regard to the power of the Federal Government to construct canals; he favors us with long and painstaking disquisitions on the nature and true character of our government, with very liberal citations from the 'resolutions of '98,' and many ponderous documents unheard of at Chicago; but when we have read them all we are nearly as much in the dark, as to the kind of a Harbor-and-River Bill that Mr. Field would vote for, as if he had not spoken at the convention. We hear quite enough of the 'difference between one who construes the constitution strictly, and another who construes it loosely,' 'enlarging the incidental powers of Congress,' etc., etc., but little or nothing that is tangible on the material point. The burden of his speech is this same offensive and supercilious assumption, 'We who think as I do are the faithful upholders of the constitution, which you who differ from us would heedlessly and selfishly override and destroy,' but what projected improvements are constitutional, and what are not, in Mr. Field's opinion, it were a task indeed to gather from his deliberately written version of his Chicago speech. \* \* \*

"Let us, in closing, urge upon those on whom, in the approaching Congress, may devolve the duty of framing a River and Harbor bill, to discharge that duty patiently, liberally, justly, and with a single eye to the common good. Let them take care that no item that cannot bear its own weight, however trifling in amount, is allowed to creep in for the sake of securing a vote, or silencing an adversary. Let a bill be framed of which every item ought to pass, and we have strong hopes that it will pass. It is a deplorable truth, that appropriations for useless or pernicious ends—to construct cumbrous fortresses and needless ships of war—to pay and feed cormorant armies in times of profound peace, or rob an Indian tribe of lands which it needs, and we do not—will pass in a day, with hardly an



opponent and never a constitutional scruple; but whenever a dollar is asked for any purpose of positive and enduring beneficence—to promote directly the well being of our own people, rather than threaten or carry destruction to others—there arises all manner of caviling, hair-splitting, scruple-devising, as if the mere purpose of the measure were (*prima facie*) evidence of intent to subvert the Constitution. In the apprehension of a formidable class of political philosophers, fidelity to the Constitution involves a vigorous adherence to every ledge and sand-bar which presented an abstract to navigation in 1787, and the fate of our institutions is bound up in the preservation of our overslaughts and rapids in rivers otherwise navigable. 'Snags, sawyers and the Constitution forever!' is virtually the war-cry of that school of expounders, who never scruple to stigmatize all who differ from them as ready to overthrow every bulwark of our freedom in their reckless pursuit of personal or local aggrandizement. Ought this style of argumentation to pass unrebuked? Can it suffice to overbear the dictates of National progress and commercial necessity?"

*After Thirteen Years.*—An article appeared in "Harper's Magazine," in 1860, urging the improvements of the Great Lakes. The writer reviewed the difficulties encountered in securing from Congress appropriations for the benefit of lake commerce. He said: "The early advocates in Congress of these lake improvements had to encounter a very violent opposition from various quarters. First, the obstructionists of the Virginia school—men who would cavil for the ninth part of a hair—affirmed in general terms, that this Government was established with the view of regulating our external affairs, leaving all internal matters to be regulated by the States; and, then descending to particulars, declared, that, while

Congress had the power to make improvements on salt water, it could do nothing on fresh; furthermore, they argued, that, to give the power of spending money, the water must ebb and flow, and that the improvement must be below a port of entry, and not above. Another refinement of the Richmond sophists was this:—If a river be already navigable, Congress has the power to improve it, because it can 'regulate' commerce; but if a sand-bar at its mouth prevents vessels from passing in or out, Congress cannot interfere, because that would be 'creating' and not 'regulating.'

"In July, 1847, a convention, composed of delegates from eighteen States, met in Chicago, to concert measures for obtaining from the Government the necessary improvements for Western rivers and harbors. This body sent an able memorial to Congress, and the result has been that larger appropriations have since been made. Still, however, much remains to be done and it appears by the last report of Colonel Graham, that his estimates for necessary work on lake harbors and roadsteads amount to nearly three millions of dollars, to which half a million should be added for the improvement of St. Clair Flats, making an aggregate of three and a half millions of dollars, which is much needed at this time for the safe navigation of the lakes."

#### *Present Broad Policy of Improvements.*

—A broad national policy is now pursued in the development of traffic upon the inland waterways of the country. And from the standpoint of the magnificent results that have accrued to the nation, the heroic struggles of a half century ago to establish and develop that judicious and enlightened statesmanship can now be regarded only with gratitude and pride. The convention of 1847 must rank as a masterful event in the progress of national achievements.

## CHAPTER XVII.

### A HALF CENTURY AGO.

AN INTERESTING DESCRIPTION OF THE LAKES IN 1847—THURLOW WEED'S ENJOYABLE TRIP—HE DESCRIBES LIFE ON THE INLAND SEAS, AND PRESENTS VIVID PICTURES OF OLD-TIME STEAMBOAT SAILING.

**A**N interesting description of life on a lake passenger steamer a half century ago was written by Thurlow Weed, in a series of letters to the Albany *Evening Journal*, of which he was editor. He took passage at Buffalo for Chicago on the steamer Empire to attend the River and Harbor Convention, and with many others made a more leisurely return trip, visiting a number of points *en route*. His prediction that in half a century, which would bring the time to the year 1897, a quarter of a million people would be supported on the shores of the Great Lakes, shows that Mr. Weed's powers of description were of a much higher order than his prophetic vision. As a picture of passenger sailing back in the palmy forties these letters are very interesting. With slight abridgment they are as follows:

"Steamboat Empire, June 30, 1847.—I am afloat, for the first time, on Lake Erie, in that magnificent steamer, the Empire. Captain Randall, who had steam up and was waiting the arrival of the cars. In ascending to her beautiful saloon, we found some three hundred ladies and gentlemen grouped around upon sofas, divans, etc., as luxuriously as on board of our own splendid Isaac Newton and Hendrik Hudson. Immediately Captain Randall commenced working his way, by slow and tortuous movements, out of Buffalo Harbor, the insufficiency of which, for the vast commerce of these inland oceans, forcibly impressed us with the importance of the convention about to assemble at Chicago. That convention will, by its deliberations, it is hoped, awaken not only the whole American people, but their Government, to the magni-

tude of an interest that has heretofore been almost entirely neglected, saving the people from their mortification and the Government from the disgrace of again seeing the implements and the materials prepared for the construction of lake harbors, sold at 'public vendue!'

"At least two-thirds of our cabin passengers are delegates to the convention. These, however, are but the stragglers of an army of delegates that had left Buffalo earlier. The number of delegates, therefore, will be legion. Our great commercial metropolis, though deeply interested, will, I fear, be but feebly represented. The only delegates with us, from New York, are Mr. Brooks, of the Express, and Edwin Burr, Esq., a friend with whom I traveled in Europe, and with whom it is always pleasant to meet. Very few of the large number of delegates appointed have appeared. Albany has shown more spirit, though her delegation is not as large as was expected. Hon. John C. Spencer, Mr. Croswell and Thomas L. Greene are here, bringing up our rear guard. Gen. Davis is, I believe, the 'sole representative' of the city of Troy.

"July 1.—We have a calm, delightful night, and at sunrise was a few miles above Conneaut, Ohio, gliding rapidly along some six miles from the shore. At 8 o'clock nearly three hundred passengers were seated in the Empire's spacious saloon to an ample and well-served breakfast. During the forenoon our friend, Seth C. Hawley, of Buffalo, called our attention to a circumstance which was particularly unpleasant to American eyes, and which proved, far more conclusively than argument or even figures

can prove, the impolicy and wretchedness of our 'Financial System of Forty-two.' The eye, at a single glance, took in a commercial fleet, consisting of 15 sail, all from Cleveland, and the neighboring ports, and all heading directly for the Welland canal. We reached Cleveland at 1 o'clock, where we lay an hour, which hour we improved by riding, first through its busy, bustling streets, and then along one or two of its broad avenues, adorned with tasteful mansions, surrounded by a profusion of fruit trees, shrubbery and flowers. Cleveland, as the outlet of the Ohio canal, is fortunate in possessing an accessible, safe and 'snug' harbor. The fact that since the opening of navigation 1,300,000 barrels of flour and 1,200,000 bushels wheat have been shipped at Cleveland 'speaks for itself.'

"Hon. John W. Allen, a former representative in Congress, and one of the most useful, as well as one of the most deservedly esteemed citizens of Cleveland, with several other delegates from that town, joined us. Mr. Allen, after completing his law studies at Oxford, Chenango county, came to Cleveland, in 1825, in a schooner of less burthen than an Erie canal-boat, and landed in a yawl on the beach, there being neither harbor nor dock there. In the afternoon we passed in view of the scene of Perry's sanguinary naval battle and glorious victory. It commenced only a few miles south of the mouth of the Detroit river, near a group of islands known as the Sisters, the respective fleets drifting, during the action, several miles toward Put-in-Bay. Gen. Proctor, with Tecumseh and several British officers, stood on a point at the mouth of the Detroit river, below Malden, watching the progress of the battle. We entered the river at half past 8 o'clock P. M., and at half past 10 was alongside of the wharf at Detroit, having traveled from Albany to Detroit (nearly 700 miles) in fifty-one hours! We are, they tell us, the only persons who ever performed the journey between Albany and Detroit in so short a time. We lay but an hour at Detroit. Mr. Corwin and Governor Bebb, of Ohio, left Detroit this morning for Chicago in the steamer Oregon. This evening, soon after

tea, the saloon was arranged for dancing, and the hours were passed very pleasantly in the mazes of the cotillion and the whirlings of the waltz.

"July 2.—The officers of the boat held a council of steam yesterday, which resulted in a determination to attempt a moonlight flitting over the 'St. Clair Flats,' a point of navigation which corresponds with our 'Overslaugh,' in its worst state, before its obstructions were partially removed. This is a feat not attempted with large vessels by night, and bets were made against its success. An experienced lake captain maintained that we should go through, saying that whatever 'Bartholomew,' our sailing-master, 'does not know of that channel is not worth learning.' The difficult passage was reached about 2 o'clock P. M. The boat felt her way carefully along the winding channel until all the worst points were passed, when, just before reaching deep water, where two stakes had disappeared, she struck, and lay 'hard aground' until 6 o'clock this morning.

"At 8:30 o'clock this morning we came alongside a dock upon the Canada shore, to wood. An hundred-and-six cords of wood (hickory, maple, beech and oak) were seized by the deck hands, steerage passengers, etc., and soon transferred from the dock to the boat, and at 12 o'clock we were under way. I learn that the Empire, in a single trip, consumes over 600 cords of wood. This requires for each trip the clearing up of over ten acres of well-wooded land. The wood which was taken on board to-day cost \$1 per cord.

"The St. Clair river is the trunk through which the waters of Lake Huron discharges itself into Lake Erie. It is a broad, beautiful river, looking out on either side upon a rich, fertile soil, and most of the way, on the British side particularly, the water and the land presenting a surface so even that another puncheon of water would apparently overflow the land. There is a current of something less than four miles an hour running through this outlet for the mighty Huron. The country along the St. Clair river strikes me as a most desirable residence. To-day, at any rate, every-



thing looks bright and smiling. St. Clair is the principal village. Here commences the pine-timber region, for the sawing of which steam-mills are numerous. Here, too, is the gigantic frame-work of a steamer, building by Captain Walker, that is to be the Leviathan of the lakes. Early this morning we passed the steamer Illinois, Commander Blake. She is owned by my old friend, Oliver Newberry, whose intelligence and enterprise is associated with all the improvements of this New World.

"Passing out of St. Clair river into the broad and deep Huron, and stretching along an arm of the State of Michigan which helps to form Saginaw Bay, you begin to comprehend something of the vastness of the West. Visions of the coming greatness and grandeur, and of the ultimate destiny of this continent, fill the mind with amazement. That America is to be the seat of empire, and that, too, at no distant day, is a fixed fact. A wisdom above that of man has prepared for the inhabitants of worn-out, impoverished and over-burthened Europe, a fresh, fertile, primeval land, whose virgin soil and graceful forests will wave over millions of people. Those who are here are but the seeds of an emigrant population which are destined to multiply indefinitely. \* \* \*.

"July 3—We had another calm, beautiful night, and Lake Huron, this morning, is scarcely moved by a ripple. The evening was again passed in conversation and dancing. And here let me say a word about the mode of 'killing time.' I had heard much about gambling on the lakes. But if this habit continues, the Empire's passengers form an exception to the rule. The time, so far, has been most rationally appropriated. Many volumes of 'cheap literature' have been devoured. Lakes, harbors and river improvements have been freely discussed. But cards seem to have gone out of fashion.

"We reached Mackinaw at 12 o'clock M. Here is an old town with four or five hundred inhabitants and a well-constructed fort, from which you have a fine view of Lakes Huron and Michigan. Having added some fifty cords to our supply of wood, and

replenished our larder with an abundance of salmon-trout and whitefish, we are again under way, passing from Lake Huron into Lake Michigan, whose waters present an unrippled surface. From Mackinaw our course is south, the westerly or north-westerly course leading to Lake Superior. At 7 o'clock this evening we touched at one of the Manitou islands for wood. At this point all the steamers 'wood.' This island, some three miles by ten in extent, is only inhabited by the few persons employed in cutting and hauling wood. It is not even inhabited by animals. I saw none of the feathered race. Reptiles are seldom seen. And in the absence of all these, mosquitoes, finding no one to torment, come not to the Manitou island.

"July 4.—This is the 71st anniversary of the Declaration of American Independence. Its sun dawns upon us in the middle of Lake Michigan, 'the blue sky above and the blue waters beneath us,' but no land in sight. It is a bright day. We are steaming onward rapidly, headed for Milwaukee, yet some seventy miles distant. The great and good men who, seventy years ago, carved out a republic, could have had but imperfect conceptions of its even yet unappreciated magnitude. They did not dream that in territory then unknown to them there would now be a population greater than that of the old thirteen colonies. They could not, in their wildest imaginings, have supposed that on these then unexplored lakes there would now be a commerce exceeding, in tonnage and value, that of our Atlantic States. Yet these things are more than realized. And in reference to the population and resources of the West, we have only seen 'the beginning of the end.'

"The works of nature away out here, where 'the sun sinks to rest,' are indeed upon an extended scale. Here are a succession of mighty lakes, emptying themselves one into another, until, nearly three thousand miles from their head, their waters mingle with those of the Atlantic. And upon the shores of these lakes is an extent of country capable of supporting and destined to receive, in the course of half a century,

at least a quarter of a million of inhabitants. At 10 o'clock to-day our steamer's bell was tolled for the purpose of assembling the passengers in the saloon for divine service. The Rev. Mr. Stimpson, of Greenbush, officiated. The services were impressive—the audience large and attentive. During the services a bird 'on weary wing' flew into the saloon, hovered around among the congregation, and then passed out to find a resting place upon the shoals. We have now been nearly four days 'at sea,' and everything has gone just right. The steamer is well managed. Though nearly three hundred passengers draw around the table, the fare continues as abundant and extensive as it could be if Fulton Market was at hand every morning. The Empire was built at Cleveland three years ago. She is over 1,200 tons burthen, and extremely well arranged for freight, steerage and cabin passengers. Captain Randall is himself the largest owner. He was formerly engaged upon the Hudson river, and came here twelve years ago. His enterprise, industry and energy promise him the reward which such qualities deserve. We are now, at 1 o'clock P. M., approaching Milwaukee, only seven miles off. My first view of Wisconsin is a very pleasant one. I come prepared to believe it a most desirable residence. That within a few years it will become an important member of the confederacy there is no doubt." \*

"Steamboat St. Louis, July 9.—Soon after leaving Chicago, on Wednesday evening, a meeting of the passengers was called, to determine our route. The chair was taken by Philip Hone, of New York. After an expression of views and wishes by the passengers, a committee, consisting of Hon. Mr. Schenck, of Ohio, Hon. William Mosley, of Buffalo, and another individual, was appointed, to obtain information from Captain Wheeler, whom we regretted to find ill in his berth. Upon learning from the Captain how much time would be consumed in the excursion, and what points were most attractive, we reported to the meeting, when it was determined that the boat should, after touching at Milwaukee and Sheboygan, proceed to Green Bay, for the purpose of

cruising for a day among its picturesque islands. There is a much larger number of passengers than was expected. Several hours before leaving Chicago, the officers of the boat refused to promise staterooms or even berths. But the interest of the excursion, and the reasonableness of the fare, combined, were irresistible. The boat goes where the passengers direct, and remains as long as they choose, for \$2 per day, including board. \* \* \*

"I had not the opportunity I desired of seeing Milwaukee leisurely, as our boat remained there but two hours. Next to Chicago, it is to be the great city of the Far West. Mr. Hone, one of whose daughters accompanies him, left us at Sheboygan, where he owns property that is becoming very valuable. This place, like all that I have seen of Wisconsin, is delightful. The Sheboygan river is navigable for the largest vessels two miles, but for the want of a few thousand dollars to improve its mouth, all its usefulness is lost. But this state of things cannot last. We left Sheboygan at 7 o'clock last night, and at 6 this morning were at 'Death's Door,' a narrow strait, with several reefs (where it is said a large tribe of Indians, endeavoring to escape from a hostile tribe in canoes, were all drowned), which forms the entrance to a group of wild, picturesque islands, around which we have been coasting for eight hours. The weather is delightful. Our captain and mate are familiar even with this out-of-the-way and seldom-visited region. These waters are seldom traversed, and human footsteps are rarely set upon these islands. A single lighthouse, with an occasional land-mark, is all that we have seen, indicating that our government has recognized the existence of this most interesting portion of our common country.

"Having completed our run through these islands, our boat was headed for the North-Manitou Island, which, being only thirty-five miles distant, we reached long before sunset. On the northwest side of this island the sand-banks rise, in some places, full two hundred feet above the surface of the lake, and, what is singular, this island of sand is without its 'sand beach.'

The shore is almost as bold, where the banks are high, as that in our Highlands. We were told that there is a large lake upon the summit of this island, abounding with trout, but on landing I found that this lake was upon the level part of the island, and even with the surface of Lake Michigan. This sand soil produces nothing but wood, though I do not understand why a soil that sustains a maple and a beech forest should not bear wheat, corn, and vegetables. There are some forty men employed here in cutting and hauling boat-wood, for which \$1.75 per cord is paid. The only family here is from Granville, Washington county. Among the privileges they regret, is that of voting a Whig ticket. From the last of October until May, they know nothing of what is passing in the world.

"Saturday, July 10.—We left the Manitou Island at 8 o'clock last evening, and were called at five this morning to take a view of the beautiful approaches to Mackinac, or 'Michilimackinac,' that 'hard word,' the spelling of which has so severely tried the patience of some teachers, and has cost so much birch with others.

"The early part of the night was rendered anxious by the severe illness of our friend, Trumbull Cary, of Batavia, who, I am happy to say, is much better this morning. Mr. Colt, of New Jersey, has been quite ill for three days. He leaves us here, for the benefit of repose and the healthful atmosphere of this island.

"The steamboat Baltic, leaving Chicago 15 hours after us, was here when we arrived, she having come direct. I observe, among her passengers, a number of the Albany and Troy delegates. Here our party separates for the day. Most of the ladies and two-thirds of the gentlemen go on shore to enjoy a 'pic-nic,' for which ample provision had been made by Mr. Bloomer, our indefatigable steward. At 10 o'clock the steamers got under way for Carp river, a distance of 12 miles, where there is said to be excellent trout fishing. We now lay at anchor at the mouth of the river, and some forty gentlemen, 'armed to the teeth,' with rod, reel, line, hook, fly, angle-worm, etc.,

etc., are intent upon beguiling and capturing the wary trout. We shall see with what success.

"Our boat rides at anchor in a broad bay, from which we look out upon a broader wilderness, apparently as unbroken and fresh as it was the day that Columbus discovered this continent. Solitude—vast and sublime solitude—is the striking feature of these mighty waters and these boundless woods. Lake Michigan occupies more surface than the State of New York, and the productive, unoccupied lands bordering it would sustain a population greater than that of all the New England States. And yet there are hundreds of miles of coast, upon this lake, whose waters float hundreds of vessels burdened with millions of dollars, where the government has not yet expended the first dollar for a harbor! There is a lighthouse, to be sure, on Washington Island in Green Bay, which warns the mariner of that danger, but if he is in a gale, or needs a harbor, he may run over an hundred miles without finding one.

"4 o'clock P. M.—The boats have just returned from the Carp river. The enterprise was not all that was expected. The party were beset by merciless mosquitoes, and, if possible, still more ferocious flies. Trout were abundant, but fastidious. They were probably not acquainted with, or possibly objected to, the city mode of being caught. An hundred and fifty were taken, of which Mr. Clinton caught 39. But though the fish were shy, the mosquitoes and flies bit magnificently, as is apparent in the stung, swollen, and blood-besmeared faces of the anglers. We are now preparing to return to Mackinac to receive our 'pic-nic' friends on board, then to depart for Sault Ste. Marie. \* \* \*

"July 10.—The 'pic-nic' realized all the enjoyment that was anticipated. A delightful spot, with a natural bower, had been selected. Mr. Bloomer had taken care to provide a dainty repast, having with him, also, the cook, waiters, etc. After visiting the 'Sugar Loaf,' 'Arch'd Rock,' and other points of interest, the band being in attendance, dancing upon the green commenced. Other rural exercises and sports were re-



sorted to, and kept up with spirit, until dinner was announced. The 'chowder,' as one or two Bostonians affirm, was one over which Mr. Webster, without loss of culinary character, might have presided. After dinner, the sports of the day were concluded by a grand 'steeple chase,' in which ladies and gentlemen participated. The ground selected for the chase, though apparently on an even surface, proved to be undulating! The consequence was that several gentlemen who left the starting-post with *spirit* and confidence, were either down, or distanced by the ladies. One gentleman attributed his fall to the circumstance that Mr. Bloomer, in compounding his 'lemonade,' had substituted champagne for water! For the offence, the steward was immediately arraigned, but Mr. Corwin, who undertook the defence, obtained a verdict of acquittal, not so much upon the merits of the case as by showing that the services of the steward were indispensable to the continued enjoyment of all parties. The party returned, greatly delighted with their excursion, at 7 o'clock P. M. In the evening, a large party of ladies and gentlemen were rowed about the harbor, for the purpose of hearing the 'Canadian Boat-Song,' from *voyageurs*.

"At Mackinac we learned that Governor Seward and family, who were to have been with us, passed up the night before. His attendance as a delegate to the convention was prevented by professional engagements at Canandaigua. The fort here is garrisoned by a detachment of the 'Brady Guards,' from Detroit. The other members of this corps are in charge of the fort at the Sault.

"Sunday, July 11—We left Mackinac at sunrise this morning. The day is calm and intensely hot. At breakfast, this morning, the trout taken yesterday in Carp river were served. They were done to a turn; and larded, as they were, with delicate slices of salted pork broiled to a crisp, I need not say that the repast was a delightful one. At nine o'clock we found ourselves gliding through and around an apparently interminable group of islands. We were in a broad bay, with no land except that

of islands in sight. These islands, thickly wooded with hemlock, cedar, and spruce, presented a deep evergreen foliage. They were of various dimensions and in all forms. While some contained 1,000, 500, 300, 200, 100, 50, and 25 acres, others were but a few rods square, and several were mere tufts, all, however, covered with trees and foliage. This splendid bay forms the head of Lake Huron. The islands are all uninhabited. They stand up amid these mighty waters, silently but impressively teaching the wonders of Nature to the children of man—having been spoken into existence by an all-wise and omnipotent Creator.

"At 10 o'clock, the passengers were summoned to attend Divine service. The Rev. Mr. Allen officiated. During the service our boat had passed through this magnificent archipelago and entered St. Mary's river. This river, you know, is the outlet for Lake Superior. It is something more than forty miles long, with a current of three miles to the hour. Its banks are low and thickly wooded. Midway between the mouth of this river and the Sault, is St. Mary's Lake. Upon the shores of the river and lake we saw numerous Indian lodges, whose inhabitants seemed enjoying the repose of the Sabbath. The smoke from these wigwams curled very gracefully through the forest. But one white family was seen along the river, until we approached the Methodist Mission house, which is in the vicinity of the Sault. Our pilot having but an imperfect knowledge of this river, it was not deemed prudent to proceed very near the Sault with a vessel drawing so much water as the St. Louis. An anchor was cast nearly thirty miles from the Sault, shortly after which the St. Clair, a boat that piles between the Sault and Mackinac, on her way to the latter place, came alongside, received our passengers, and put back, landing us at 8 o'clock P. M. So large a number of visitors had never before landed here in a body. A rush for apartments ensued. The Van Anden House and the St. Clair Hotel were filled to an overflow. Mr. Corwin and several other gentlemen found quarters in the fort. Those who were unable to get accommodations at

the hotels remained on board the St. Clair. Mr. Van Anden gave us up his family room. At 9 o'clock, we (some fifty) supped upon deliciously broiled whitefish that we caught after our arrival.

"Monday, July 12.—We were astir at sunrise this morning. An hour was consumed in walking about the town, which has a population of 1,000 or 1,200, chiefly French and half-breeds. After breakfast, three of us started for the head of the rapids, where a bark canoe, in charge of three *voyageurs*, had been engaged for the day. Above the rapids lay three fine schooners that had been moved by land over this carrying place. Here is a broad and beautiful bay, out of which you pass into Lake Superior. The Julia Palmer (formerly the ship Julia Palmer), a steamer that had been moved on ways from the river St. Clair into Lake Superior, was off for Copper Harbor, nearly two hundred miles up the lake. We seated ourselves in the bottom of our canoe, upon mats, and glided up and across the bay some three miles above the rapids, into Her Majesty's dominions.

"In consequence of a painful occurrence in running the rapids, some three weeks since, when a boat was dashed against the rocks and three visitors drowned, we were told that the *voyageurs* would not take us over, and many, who promised themselves the excitement of running through these boiling waters, relinquished the enterprise. But in returning, our crew headed directly for the rapids, through which we passed pleasantly and safely, avoiding the rocks over which the water bubbled, on either side of us, by a dexterous and graceful use of the paddles. The distance is three-quarters of a mile, over which the current swept us in seven minutes. After this, several other parties chartered canoes and came down in the same manner. Arrangements were then made for trout fishing. Ladies and gentlemen supplied themselves with tackle, and more than a hundred anglers sallied forth. But the day was so clear and bright that the trout rose reluctantly, and but few were taken. While others were fishing, we rambled about on the

Canada shore, visiting the establishment of the Hudson Bay Fur Company, etc.

"There is nothing at the Sault which strikes a visitor so forcibly as the fact that our Government has neglected to construct a ship-canal around these rapids, connecting the waters of the mighty Superior with those of the lower lakes, and thus perfecting a chain of lake-and-river navigation more than three thousand miles in extent. It is not possible to select a point more favorable to a ship-canal. The distance is but three-quarters of a mile! The elevation is but 22 feet! This great work might be completed for less than a quarter of a million dollars. And yet it has not been done. I shall be disappointed if Messrs. Corwin, Butler, King and Schenck, who are with us, do not press this improvement in the next Congress. Large quantities of copper, some in masses and some in barrels, lay upon the wharves here. I observed much virgin copper blocked out from the mines in pieces weighing from one to two thousand pounds. I was happy to learn that a copper mine, in which our friend Greeley has a large interest, is promising to be very valuable.

"Tuesday, July 13.—We turned our faces homeward this morning. The passage down the St. Mary's river, and again through the Bay of Islands into Lake Huron, was truly magnificent. Presque Isle, upon the Michigan side of the lake, is the first landing. Here we took in wood, ice and fish. Along here is a coast of nearly two hundred miles almost wholly uninhabited. Upon an uninhabited island, some fifty miles from Presque Isle, a son of Senator Backus, who resides at Saginaw, Michigan, has a fishing-station, where he is now engaged with a dozen fishermen, and where he expects to put up 3,000 barrels of white fish during the season.

"Wednesday, July 14.—We came out of Presque Isle last evening with a breeze which promised to freshen into something lively, but before 11 o'clock the wind subsided, and the lake became as it has been for a fortnight, calm and unruffled. At 2 o'clock this afternoon, we passed Fort Gratiot, at the outlet of Lake Huron, and

soon entered the beautiful St. Clair river, for which my admiration is, if possible, increased. I have never seen a water-and-land view combining so much that is rich and beautiful. They tell me that the winters here are long and severe. But the wheat, corn, vegetables, etc., look vigorous and healthy, and are well advanced. We reached the St. Clair Flats at 4 o'clock. This spot, as I have remarked, reminds an Albanian of the Overslaugh. Here vessels arriving in the night are detained until morning, as there are no lights or beacons to enable them to discern the channel. And vessels other than steamers are compelled to lay here for a favorable wind.

"There are now over 700 steamboats, propellers, brigs, and schooners navigating these lakes. In July, 1846, as Captain Mills, who had charge of the dredge, reports, 71 steamboats, 37 propellers, 59 brigs, 128 schooners, and 81 coasting craft passed the St. Clair Flats. Thirty-one of these vessels were compelled to employ lighters in crossing, and all were more or less obstructed and delayed. And yet, though a few hundred thousand dollars would remove these obstructions, Jackson, Van Buren and Polk have opposed, resisted and defeated appropriations!

"Time has passed very pleasantly upon the St. Louis since we left Chicago. Though the number of passengers was too large for a pleasure excursion, yet the efforts of the officers to accommodate and please, and the disposition of passengers, generally, to be pleased, has been successful. The passengers breakfast, as at the Astor House, whenever they please, between the hours of 7 and 11 A. M. There is a lunch at 12. At half-past 2 we dine. A substantial tea is served at 7; and at 10 the supper-table is spread. And the fare is not only uniformly abundant, but the cooking excellent. The table is loaded with meats, viands, delicacies, etc., all served in good taste. Our evenings are uniformly gay and joyous. Immediately after tea, the tables are removed from the saloon, the band appears, and 'the ball opens.' Of our party, which numbers about two hundred, nearly one-third are ladies—agreeable and accom-

plished ladies, whose conversation, music, and accomplishments invest the excursion with an interest which ladies only can impart to society, and without which it would have been robbed of half its enjoyment. Dancing commences at 8 and continues till 11 o'clock, with much spirit, not only by the young ladies and gentlemen, but by many of the elder and graver personages, to whom the occasion has brought back something of the freshness and inspiration of youth.

"The St. Louis left Buffalo on the 29th ultimo, expressly for a pleasure excursion, taking the Chicago Convention in its way. \* \* \*

"Thursday, July 15.—We reached Detroit last evening in season to get a view of the harbor, which is an admirable one, and to walk before dark through its principal avenues, which present a broad, pleasant, and business-like appearance. The U. S. steamship Michigan is lying off the city, and I regretted that we had not time to accept Capt. Champlain's invitation to go on board. This veteran is worthy of his command. He, it will be remembered, was the sailing-master who took Com. Perry's fleet so handsomely into the battle of Lake Erie, and who conducted himself with marked coolness and courage throughout the fight. \* \* \*

"We reached Sandusky at 7 o'clock this morning. Its harbor, though requiring improvement, is one of the broadest, most secure, and commodious, that I have ever seen. The city, after struggling for twenty-five years with formidable difficulties, is overcoming them all, now looks prosperous, and is no doubt flourishing. The Mad-River railroad, which owes much of its success to the efforts of the late Governor Vance, is nearly completed. Running, as it does, from Sandusky to Cincinnati, it is destined to become one of the great thoroughfares of the Union. Already much of the travel of the Southwest comes over this road. We called early upon Oran Follitt, Esq., editor, many years ago, of the *Buffalo Journal*, and now a member of the Ohio Board of Public Works. He has a splendid mansion, embowered with rose,



honey-suckle, etc., and surrounded with delicious fruit. May he live in the enjoyment of these luxuries 'a thousand years.'

"I learn here that the produce speculators from the East have been making wild purchases of flour, wheat, and corn, in anticipation of more favorable news by the steamer that is now due. They will be sadly disappointed. It is strange how entirely the judgments of men are clouded by their cupidity. Nothing is more certain than that the next intelligence from England will show a further decline in breadstuffs.

"Friday, July 16.—We arrived at Cleveland before sunset last evening, and enjoyed another view of this thriving city. Among its striking features is the 'Weddell House,' one of the most magnificent hotels in America. This building looms up like the Astor House, and is furnished with every attainable luxury. The furniture would compare favorably, in value and beauty, with that of the drawing-rooms of our 'merchant princes.' The house was built by Mr. Weddell, who had accumulated a large fortune in business at Cleveland. When returning from New York, last spring, where he had been to purchase furniture for this house, he took a severe cold, from the effects of which he died. The house is well kept by Mr. Barnum, who was formerly with his uncle in 'Barnum's Hotel' at Baltimore.

"We are now approaching Buffalo, after an absence of sixteen days, having traversed Lakes Erie, St. Clair, Huron, Michigan and St. Mary's; run through the Detroit, St. Clair and St. Mary's rivers, and *looked* into Lake Superior. The distance from Buffalo to Chicago is 1,054 miles. From Chicago to the Sault, *via* Green Bay, the distance is about 800 miles. From the Sault to Buffalo the distance is over 700 miles. We have journeyed, therefore, more than 2,500 miles upon lakes and rivers whose waters are whitened with the canvas and blackened with the smoke of vessels and steamers greater in number and exceeding in value the vessels and commerce of any one of the nations of northern Europe. And yet our government refuses to recognize this great

interest as a part of the commerce of the Republic!

"The weather, during this long excursion, has been most auspicious. There has not been wind enough to disturb the most sensitive stomach. Nor has the slightest accident occurred. The steamboat *Empire*, in going up, and the *St. Louis*, in going the rounds, behaved admirably. Captain Wheeler and his officers were constant and untiring in their efforts to render the excursion, what it really has been, one of instruction and enjoyment. Mr. Bloomer, who acts as clerk, steward, 'chief cook,' and 'head-waiter' (for he makes himself generally useful), is just the man to take charge of these various departments.

"The *St. Louis*, though not one of the fastest, is among the best built, stanchest, and most commodious steamers on these lakes. She is owned by the Messrs. Hollister, a family of brothers and sons, who have been long known at Buffalo, and up the lakes, as enterprising and liberal merchants, public-spirited and useful citizens, and efficient, reliable Whigs. \* \* \*

"Niagara Falls, July 17, 1847.—We arrived at Buffalo last evening just in time to take the cars for Niagara Falls. The railroad from Buffalo to the Falls, since I was here last, has, much to the advantage of the public and the stockholders, changed hands. Instead of the rickety rail over which we were then drawn by horse-power, we were now taken through upon a substantial road in an hour and ten minutes. Much has been done, since I was last here, to adorn Goat Island, to facilitate access to the Falls, and to enhance, if possible, the grandeur and sublimity of the views. General Whitney has enlarged and improved his magnificent hotel. Mr. White, in the '*Eagle*,' presents every possible luxury and enjoyment that 'mine inn' can furnish to visitors. Mr. Hooker, who has been here almost as long as the cataract, is still on hand, in no otherwise changed than that instead of '*Hooker, Guide to the Falls*,' upon his hat, it is now '*Hooker & Sons, Guides to the Falls*.' The '*Indian-curiosity*,' business, which, twenty-five years ago, was in its infancy, has grown into a large, and,

from the price asked for the first article we looked at, a profitable trade. For a cigar-case intrinsically worth twenty-five cents, but for which we were prepared to pay fifty, as a fancy piece, the 'Injun' (as they spell the word at Mackinac) Bazaar man had the modesty to demand \$2.50! As our 'curiosity' was not quite sharp enough for such a bite, we left the bargain open for the next fool.

"But the grand new feature here is the steamboat *Maid of the Mist*, that runs, three times a day, from the rapids, a mile below the cataract, up that wild, fierce, whirling current, to and along the base of the mighty column which rushes from the summit 'down below.' This was a bold and expensive enterprise. The steamer was placed under the Falls last year, but without sufficient power to stem the current. This discouraged some of the proprietors. But John Fiske, of Rochester, went to work this season with indomitable energy, to overcome all obstacles, and he has succeeded triumphantly.

"You are taken in carriages, nearly two miles to the steamer. The road down the bank starts from the point on the American side, which has been fixed upon for a terminus to the Suspension Bridge. As the Rapids and Whirlpool, in the former of which a boat would be torn to pieces preparatory to being swallowed up by the latter, are just below the *Maid's* wharf, this voyage has a nervous look. But the precautions and guards against accident are so well and carefully provided as to inspire full confidence. The steamer has two engines, so that if one fails the other can be put in gearing in a minute and a half. She is found with two anchors and chain-cables. She has also a small boat, by means of which a strong line can be run ashore the moment a necessity for doing so exists. The *Maid of the Mist* is commanded by Captain Filkins, who, like his engineer and pilot, keeps both eyes open and all their wits about them. Without this excursion upon the *Maid of the Mist*, a view of the Falls of Niagara is incomplete.

"Steamboat *Cataract*, Lake Ontario, July 18.—We intended to have returned to

Buffalo, for the double purpose of visiting friends and seeing the extent of the commercial, manufacturing, and mechanical wonders that intelligence and enterprise have wrought in a youthful city which is destined to be second only in the Empire State, to its great commercial emporium, since 1840. But learning that our old friend VanCleve was at Lewiston with his new boat, the *Cataract*, that temptation was irresistible. At 4 o'clock this afternoon, therefore, having come over the Niagara Falls and Lewiston Railroad, passing a succession of wheat fields whose waving straw, bristling beard, and well-filled heads, all 'fully ripe,' and inviting the embraces of the reaper, resembles the gold which is far less intrinsically precious, we found ourselves seated upon the beautiful promenade deck of the *Cataract*, viewing Brock's Monument upon the heights which American valor conquered; the spot where Van-Rensselaer fell, seriously wounded; and the sanguinary field in which Scott and Wool so gallantly fleshed their maiden swords. \*

"The *Cataract* was built at Ogdensburg, under the immediate superintendence of Captain VanCleve, whose experience, judgment, and taste enabled him to correct many defects and suggest many improvements. She is 225 feet long, 28 feet beam, and eleven feet hold. Her main saloon is 170 feet long. She has 51 spacious, airy state-rooms, with doors opening into the saloon and out upon the guards. She has also 190 large, commodious berths. Her ladies' saloon and dining cabins are in excellent keeping with the accommodations in other respects. There is a neatness and beauty in the furniture, hangings, tapestry, etc., etc., of the *Cataract*, which cannot fail to strike and charm passengers. Everything is arranged with an eye, as well to fitness and propriety, as to enjoyment and ease. The rooms are all richly, but not gaudily, furnished. And every part of the boat is arranged with a view to the comfort and quiet of passengers. When summoned to tea, the table, its furniture, and the repast itself, excited general admiration. Innumerable delicacies were served with most appetizing taste. The *Cataract* runs

with less noise and motion than I have ever known. In her model, the line of nautical beauty has been preserved, and in her construction, arrangements and finish, she seems as nearly perfect as science and art combined with experience and taste, could make her.

"Captain VanCleve, though yet a young man, is a veteran on Lake Ontario, where he has been in command of steamers for more than twenty years. He is a capable, vigilant, and efficient officer, possessing, in an eminent degree, all the other qualities which make men respected and popular. Lake Ontario has its full share of perils. Its navigation is often rough, difficult and dangerous. But Captain VanCleve, during his long career, through all seasons and all weather, has never met with an accident which seriously damaged his boat or injured his passengers.

"Among the passengers on board, I noticed Hon. Alvin Bronson, of Oswego, and Hon. Myndert Van Schaick, of New York. These gentlemen were former members of our State senate, where by their business habits and practical knowledge, especially in reference to the various questions of finance, they rendered valuable public service. They are both of another political faith, but I do them no more than justice in saying that they discharged their duties, as representatives of the people, upon all questions not political, with an intelligence and integrity which senators, in all coming time, may imitate with great advantage to the people. We are now, at 10 o'clock, gliding up the Genesee river, having run down from Lewiston (over 80 miles) in six hours, showing a speed of nearly 15 miles to the hour."

## CHAPTER XVIII.

### LAKE CANALS.

ERIE CANAL. WHY THE CANAL WAS NEEDED—EARLY PROJECTORS—GEN. WASHINGTON FAVORED IT—FIRST LEGISLATION—TO SEEK AID IN EUROPE—WAR OF 1812 KILLS THE PLAN—BILL OF 1815 PASSES—CHANCELLOR KENT CHANGES HIS VOTE—CANAL FUND CREATED—FIRST BOAT—CONTEST BETWEEN BUFFALO AND BLACK ROCK FOR THE WESTERN TERMINUS—CELEBRATION AT BUFFALO—EFFORTS TO ENLARGE THE CANAL—ZENITH OF PROSPERITY—TOLLS ABOLISHED—VOTE OF 1895 TO IMPROVE—BRIEF REVIEW OF THE COMMERCE OF THE CANAL—STEAM ON ERIE CANAL, ETC.

WELLAND CANAL. EARLIEST LEGISLATION IN 1821—TRYING TO SELECT A ROUTE—COURSE VIA BURLINGTON BAY ABANDONED—PRIVATE COMPANY ORGANIZED—AROUSING PUBLIC INTEREST—CANAL IS COMPLETED—GOVERNMENT LOAN SECURED—DIMENSIONS OF ORIGINAL CANAL—TONNAGE ON THE CANAL—ENLARGEMENT IS PLANNED—THE PROBLEM OF FEEDERS—RIVALRY BETWEEN WELLAND AND ERIE CANALS—RAPID GROWTH OF THE SIZE OF VESSELS—HARBORS AT PORT COLBORNE AND PORT DALHOUSIE—PRESENT SIZE OF CANAL—STATISTICS OF CANAL'S COMMERCE—REFUNDING OF TOLLS.

In the next generation the Great Lakes district will control the iron and steel trade of the world. In the proper distribution of the manufactured product, therefore, the question of deep waterways is all important. More than all things else would a deep channel from the Great Lakes contribute to putting America in its proper place as the first steel producer of the world.—*Arthur J. Morham.*

MUCH artificial work has been necessary to obtain from the Great Lakes their maximum service. Separated from each other, in two instances, by water falls, and in another by a shallow channel, cut off from the commerce of the world by many impassable rapids, surrounded by other important waterways that might be reached



by intervening channels, the lakes have attained their present commercial power and prestige only by herculean human effort. Vast enterprises have been successfully prosecuted; others, still more important, are yet under way, and will doubtless be completed. The wild lakes have been humanized, and the various steps by which this has been accomplished composes one of the most important departments of lake history.

The canals touching the Great Lakes have a combined length of about 1,200 miles. Many of these have sunk into obscurity, but the deepening of channels has quite recently assumed a most important phase of inland navigation. Sketches of the principal lake canals are herewith presented.

#### ERIE CANAL.

The Erie Canal is one of the great waterways of the world. It was constructed when the State of New York was in its infancy, and it is remarkable that such a work of engineering and commercial importance should have then been successfully carried through. The necessity for such a waterway lay partly in the fact that the interior of the State of New York was beginning to supply trade that was in danger of being diverted from its legitimate channels. The settlements of that State were for the most part along the inland rivers and upon the borders of the interior lakes. And the trade between the city of New York and these interior settlements was rapidly being destroyed by the competition of French-Canadian traders, who, having their headquarters at Quebec and Montreal, found easy communication with Oswego, at the mouth of Oswego river, by way of the St. Lawrence river and Lake Ontario; and from Oswego into the interior regions of the State.

It was to provide, therefore, for easy and direct communication between the Eastern markets and the interior settlements, that the first step in the final construction of this great waterway was taken. France, Holland and Great Britain had all constructed canals, and it was known that

much of the prosperity of those countries was attributable to these inland, artificial water communications.

*Early Projectors.*—Among those who first thought of this project and predicted that such a canal would ultimately be built were Cadwallader Colden, Sir Henry Moore, George Washington, George Clinton, and Gouverneur Morris. It is well known that the Father of his country was in a large measure indirectly responsible for the final construction of the Chesapeake & Ohio canal, through having been directly interested in the securing of the old Potomac canal, which from the necessities of the case was a failure.

The first suggestion published to the world was made almost precisely one hundred years before the completion of the canal. This suggestion was made in 1724 by Cadwallader Colden, then surveyor-general of the State of New York, to William Burnet, the governor of the province. In an elaborate report concerning the fur trade of the province, and upon the superior advantages of the city of New York over Montreal and Quebec, occurs the following paragraph: "But besides this passage" (by means of the Mohawk and Oswego rivers), "there is a river which comes from the country of the Senecas, and flows into the Onondaga river, by which way can an easy carriage into that country be obtained, without going to Lake Ontario. The head of this river goes near to Lake Erie, and probably may give a very near passage into that lake, much more advantageous than by the Falls of Niagara."

Gov. Sir Henry Moore, in 1768, called the attention of the Legislature to the great delays and expense of transporting goods over these various portages, and suggested that if these evils were not removed commerce might be diverted into such channels as would deprive the colony of all the advantages resulting therefrom, and earnestly urged the improvement of inland navigation.

*General Washington Favors It.*—In 1783 General Washington made a tour through the central part of the State of New York, and expressed himself as greatly

in favor of improving its great inland navigation.

In March, 1786, Jeffrey Smith, a member of the Assembly, brought in a bill for improving the navigation of the Mohawk river, Wood creek and the Onondaga river, with the view of opening up inland navigation to Oswego. Gov. George Clinton, in January, 1791, made recommendations along the same line, and Gen. Philip Schuyler was instrumental in procuring the incorporation of the Western Inland Lock Navigation Company, in 1792, and was made president of the company. In 1797, when upon a tour of exploration through the central part of the State, General Schuyler and the engineer of the company, William Weston, an Englishman, talked of water communication by means of canals as far west as Lake Erie, provided the face of the country would admit of it.

However, the first man who succeeded in concentrating public attention upon the project was Jesse Hawley. In April, 1805, he suggested an overland canal from the foot of Lake Erie at Buffalo to Utica, and thence down the Mohawk to the Hudson. He wrote a series of articles, which were published in the *Genesee Messenger*, the first appearing in October, 1807, advocating this canal.

*First Legislation.*—But little was done, however, in a practical way until the winter of 1810, when a joint resolution was passed by both houses of the State Assembly, appointing seven commissioners to explore the whole route from the Hudson river to Lake Erie. These seven commissioners were as follows: Gouverneur Morris, Stephen Van Rensselaer, De Witt Clinton, Simeon De Witt, William North, Thomas Eddy and Peter B. Porter. These commissioners entered upon their duties July 1, 1810, taking with them Mr. Geddes as engineer, the essays of Mr. Hawley, the survey made by Mr. Geddes in 1808, and a map and report made in the same year by Joseph Ellicott.

*To Seek Aid in Europe.*—To the next Legislature these commissioners recommended the overland route to Lake Erie as practical and beneficial, and that measures be taken to secure the construction of such

a canal. These commissioners in accordance with authority furnished by the State, attempted to interest President James Madison and Congress in the project, but without success, and hence they reported that "now sound policy demands that the canal should be made by the State of New York alone, and for her own account." In June, 1812, a law was passed authorizing the commissioners to borrow \$5,000,000 in Europe, for the work, but the war with England prevented that scheme from being carried out. In 1814 the law authorizing this loan was repealed.

*Bill of 1815 Passes.*—In 1815 De Witt Clinton reported a memorial to the Legislature urging the construction of the Erie canal to Lake Erie. This memorial had great influence throughout the State; and notwithstanding a strong opposition was made, a bill was at length passed directing the work on the middle section of the canal to be commenced, limiting the annual expenditure to \$250,000, and the entire expenditure to \$2,000,000. The commissioners under this bill were: De Witt Clinton, Stephen Van Rensselaer, Joseph Ellicott, Samuel Young and Myron Holley.

*Chancellor Kent Changes His Vote.*—The bill providing for the construction of the canal finally passed both houses of the Assembly April 14, and the next day became a law in a most remarkable manner. After it had passed both houses of the Legislature it had to be approved by the board of revision, which was composed of five gentlemen, as follows: Lieutenant-Governor Taylor, Chancellor Kent, C. J. Thompson, and Judges Yates and Platt. Chancellor Kent and the two judges, Yates and Platt, finally voted in favor of the bill. Three of these gentlemen were opposed to the bill and had so voted when Vice-President Tompkins walked into the room. He said he was opposed to the canal, because there would be another war with England within two years, and the country would need all its resources to carry on that war. Chancellor Kent asked Mr. Tompkins if he meant what he said, that there would soon be another war with England, and upon receiving an affirmative and emphatic reply,

Mr. Kent said, if that were to be the case he would change his vote and favor the bill.

"The accidental coming into the room of the council of the Vice-President of the United States, to oppose a measure already lost, by using for his purpose an unfortunate argument, made no less a man than the great lawgiver of this continent change his vote, and through this change the fortunes of the bill were changed."

The first meeting of the commissioners to receive propositions and to make contracts was held at Utica, June 3, 1817, commissioners Young and Holley having charge of the work in the middle section, which it was deemed advisable to construct first. The work began on the 4th of July, as a celebration of the day, at the village of Rome, Judge Richardson, the first contractor, casting up the first spadeful of earth, amid the booming of artillery and the acclamations of the people. Thus the great work was begun.

To De Witt Clinton is due great credit for the success of this stupenduous enterprise. The completion of the middle section extending from Utica to Montezuma, was appropriately celebrated July 4th, 1820. The completion of the eastern section was celebrated at Albany October 8, 1823, and of the western section October 26, 1825. At the precise time of its completion the message was sent over the line of the "artillery telegraph," which announced the welcome news from Lake Erie to the Atlantic Ocean. Thus in eight years and four months was the great work accomplished.

*Canal Fund Created.*—The law, as thus passed by the casting vote of Chancellor Kent, created the board known as the "Commissioners of the Canal Fund," which consisted of the Lieutenant-Governor, the Comptroller, the Attorney-General, the Surveyor-General, the Secretary of State and the State Treasurer. The duty of this board was to manage all matters pertaining to the canal fund with advantage to that fund and with economy.

This fund was created by imposing a duty of twelve and a half cents per bushel upon all salt manufactured in the western

district of the State: a tax of \$1 on each passenger that should make a trip of over one hundred miles on any steamboat on the Hudson river, and half that amount on each passenger that should make a trip of less than one hundred miles and over thirty miles: the proceeds of all lotteries that should be drawn in the State of New York, after the sums then granted in them had been paid: all the net proceeds from the Western Inland Navigation Company's property which was to be purchased: all donations made or to be made: all the duties upon sales at auction after deducting the sum of \$33,500 annually, which was to be appropriated to the hospital and other public institutions. In addition to these several sums there was to be raised \$250,000 by levying a tax on all lands and real estate lying along the route of the canal on either side and within twenty-five miles, such assessment to be made by the canal commissioners according to the benefits which in their opinion would be derived from the canal.

This financial scheme proved eminently successful. The salt duties alone paid toward the canal more than \$3,000,000, and by September, 1833, the salt and auction duties had paid \$5,812,621. The tax on steamboat passengers was suspended the next year after it was imposed, for the reason that the Supreme Court of the United States decided that the grant to Livingston and Fulton of the exclusive right to navigate the waters of the State by steam, was invalid. The tax on lands along the canal was never collected, and the lottery tax never yielded anything.

The length of the canal from Buffalo to the Hudson river is 363 miles, the entire distance from Buffalo to New York being 513 miles. The width of the canal as first constructed was 40 feet on the surface, and 28 feet at the bottom, the depth of water being four feet. It could pass boats of only 76 tons. There were 83 locks, built of massive stone, the chambers of which were 90 x 15 feet, and they were capable of containing boats of about 100 tons burden. Upon arriving at Albany a boat which had passed through this canal had descended



553 feet: but her total ascent and descent in the course of her voyage was 662 feet.

*First Boat.*—The first boat that went down from Buffalo was the Seneca Chief. She left Lake Erie at 10 o'clock A. M. October 26, 1825, for Albany and New York, and was scheduled through to Albany, where she arrived November 2, at 1 o'clock P. M. The first gun of the grand salute was fired at Buffalo at the precise moment of boat's starting, and minute guns were fired all along the canal down to Albany, the gun being fired at Albany at 11 A. M. The salute then ran down the Hudson river to New York, the last gun being fired at Sandy Hook at 11:21 A. M. The return salute began at 11:32 A. M., and was continued through Albany to Buffalo, the last gun being fired at Buffalo 1 hour and 20 minutes later.

The committee of Buffalo citizens that went down on the first boat to Albany and New York was as follows: Hon. Samuel Wilkeson, Capt. Thaddeus Joy, Maj. David Burt, Dr. H. R. Stagg, Mr. Hernon B. Potter, Capt. M. M. Dox and Mr. Samuel Wells.

#### CONTEST BETWEEN BUFFALO AND BLACK ROCK FOR THE WESTERN TERMINUS.

During the progress of the construction of the canal, that which most interested the people living in the vicinity of its proposed terminus was the question of the precise location of that western terminus. This question was whether it should be at Buffalo or Black Rock. A fierce rivalry existed between the two places, and a heated controversy was waged for several years. The disadvantage of Black Rock was its location at the foot of the rapids of the Niagara river, which would render it difficult for sailing vessels to ascend the river. The great disadvantage of Buffalo was that Buffalo creek was only a small stream and had a sand bar at its mouth, which would render it difficult to construct a harbor into which vessels of any size could make entrance.

The commissioners upon investigation at once decided that it would be expedient to commence the canal at or near the mouth of Buffalo creek, in order to sustain the

highest possible level at the highlands, instead of descending into the Niagara river at Black Rock, by which they would lose four feet of head, and consequently be subject to the expense of so much additional depth of excavation across the Mountain ridge.

This important question was not fully settled, however, until the spring of 1819, when the Legislature, in consequence of urgent applications from citizens of Buffalo, for the grant or a loan of a sum of money sufficient to construct a harbor, passed a law directing the canal commissioners to examine the entrance of Buffalo harbor.

Gen. Peter B. Porter, in behalf of the people of Black Rock, presented a memorial to the Legislature, which closed with a proposition that a competition should be entered into between the people of Black Rock and the people of Buffalo, by offering to the people of Buffalo the sum of \$12,000 for opening the mouth of Buffalo creek, and a like sum to the people of Black Rock for forming a larger harbor.

In compliance with this memorial a law passed providing that in case the Buffalo Harbor Company should on or before January 1, 1824, open or complete a passage across the sand bar of sufficient depth and breadth to admit at all seasons of the year vessels drawing eight feet of water, it should be the duty of the canal commissioners to allow all reasonable expenses up to \$12,000, and also authorized the citizens of Black Rock to construct a harbor at an expense not to exceed \$12,000, in such a way as to allow vessels drawing eight feet of water to have a safe harbor down to the upper end of Squaw island.

The first work on the Erie canal, in Erie county, was performed on the spot where the village of Tonawanda now stands, this village having been built as a result of the construction of the canal, and named after Tonawanda creek, which in the early days was spelled Tonewanta. The last work done on the western section was the canal cut through the mountain ridge at Lockport.

*Celebration at Buffalo.*—On October 25, 1825, Governor Clinton and other distinguished gentlemen from Albany arrived in

Buffalo, and the next morning came the grand ovation. After the Seneca Chief started down the canal with its Buffalo delegation on board, the procession of citizens returned to the court house, where an eloquent oration on the benefits the canal was to confer on the State was delivered by Sheldon Smith, a prominent lawyer of Buffalo, and then there were public dinners at the Eagle Hotel and the American House, the celebration winding up with a grand ball at the Eagle Hotel. The cost of the canal by the time of its completion, on October 25, 1825, was \$7,600,000.

*A Gift of the Gods.*—Thomas L. Kenny in his tour to the lakes, while making a trip over the Erie canal in a cabin boat, soon after its opening, wrote as follows: "It is not possible for me to convey any adequate idea of the wealth which flows upon the canal; nor of the advantages which are experienced from it by the people who live upon its borders, and those more remote settlements throughout the entire region of the Northwest. The truth is, the canal is in everybody's mouth. The yeomanry, the bone and muscle of these regions, make you see in their countenances that they esteem it to be little short of a gift of the gods. The fact is that the canal is nothing more nor less than a great sluice of wealth; and the hardy settlers of all these regions are getting rich by the facilities that it affords them."

*The Question of Enlargement.*—It would be difficult to estimate the benefits to the prosperity of the great Northwest and the effect on the commerce of the Great Lakes conferred by the construction of this canal, the longest in the world, with the exception of the one in China. By 1835 the traffic on the canal had become so great that its enlargement was authorized by the Legislature, and was begun by the commissioners; but the panic of 1837 so seriously crippled the finances of the State that after several years of embarrassment the work was discontinued in 1843. The constitution adopted in 1846 forbade the Legislature to incur a debt of more than \$1,000,000. When the Whigs came into power they sought to continue the work of the enlargement of

the canal, and in order to avoid the restriction imposed by the constitution, attempted to pledge the income of the canal in advance on the ground that this would not be incurring a debt. A heated controversy resulted, the Democratic members of the Senate, most of them, resigned in order to break a quorum, and at a special election held to fill the vacancies most of those who had resigned were repudiated by the people, enough senators being elected to enact the law, which was afterward declared unconstitutional by the court of appeals.

But when a constitutional amendment was submitted to the people, authorizing an increase of the debt beyond \$1,000,000, they adopted it by a large majority. This enlargement was in process from 1850 to 1862, when it was completed. During this process of enlargement the canal was made shorter, and was at the end of the work only 350½ miles long, instead of 353. The width at the surface was increased from 40 feet to 70 feet, and at the bottom from 28 feet to 56 feet, and the depth of water in the canal was increased from 4 feet to 7 feet. The capacity of the canal was thus increased, according to the statement of one of the engineers engaged in the work, five times. The size of boats was also increased, from about 70 tons burden to 210 tons, the maximum size of boat used in this enlarged canal being 240 tons. The locks in the enlarged canal were increased in number to 72, and increased in size to 110 feet in length and to 18 feet in width.

The expense of the enlargement was, of course, much greater than the cost of the original canal. Down to 1866 the amount expended on this and on the Champlain canal was \$46,018,234, but a small portion of which was expended on the latter canal. In this sum nothing was included but the cost of construction, enlargement and improvement. Repairs and maintenance had cost up to the same time \$12,900,333, making the total amount expended on the canal up to 1866 \$58,918,567. The receipts from tolls on the two canals had then reached the sum of \$81,057,168, and hence the balance to the credit of the canal was then \$22,138,601.

*Zenith of Prosperity.*—But at this time the canal system of the State appeared to have reached its highest prosperity. When the constitutional convention of 1867 was in session some of the members proposed the sale of the canals of the State to private individuals; but this suggestion was not carried into effect. The stimulus of the war on the railroad systems of the country had been so great, and their competition had become so strong, that the tolls of the canal were reduced as low as compatible with the constitutional provisions.

*Tolls are Abolished.*—Still later it became evident that the canal could not by its tolls pay for its repairs and maintenance; hence if the canals of the State were to continue of use to commerce the tolls would have to be abolished altogether, and in 1882, when the question of making them free to commerce came up and of maintaining them at the expense of the State, the people voted for such a constitutional amendment by a large majority.

*Vote of 1895 to Improve.*—The abolition of the tolls resulted in a considerable increase in the business of the canals for several years, but still the railroads continued to wage a sharp competition for trade, and at length on the 6th of March, 1895, a law was approved by the governor of the State, providing that bonds should be issued to the amount of \$9,000,000 for the improvement of the Erie, Champlain and Oswego canals.

The election occurred November 5, 1895; the vote in Buffalo was—for the bonds, 40,007, and against them, 3,124. In the entire State the vote for the bonds was 595,828, and against them, 322,001. In Erie county the vote stood, for the bonds, 46,713, against them, 6,378, and there were cast 10,076 blanks.

The attitude of the State at the present time toward its canals may here be stated. The constitution provides that: "The Erie canal, the Champlain canal, the Oswego canal, the Black River canal, and the Cayuga and Seneca canals, shall not be sold, leased or otherwise disposed of; but shall remain the property of the State and under its management forever."

This amendment to the constitution

was adopted in order that the canals of the State might perform the work of attracting the commerce of the West and East through New York, and that it might also be the great regulator of the rates charged upon such commerce. The great difficulty of later days in connection with this great waterway has been that rates of freight have been constantly descending, and boatmen could not possibly carry freight at a loss. This it was that led to the idea that enlargement was a necessary step in its development, and hence the \$9,000,000 appropriation.

*A review of the commerce of the canal* will show the reasons for the various movements made for the enlargement and improvement of this great waterway. Up to 1850 the canal had but little competition to contend with in the carrying trade. This competition was supplied by the New York Central railroad, which in 1850 earned only \$717,702 in carrying freight. But by 1856 there were four great railroad lines running into the interior of the country, as follows: The New York & Erie, which that year earned \$4,545,781; the New York Central, which earned \$4,371,387; the Baltimore & Ohio, which earned \$3,712,952, and the Pennsylvania Central, which earned \$3,744,291. The total value of the through freight thus carried by the four railroad lines was more than \$200,000,000, while the value of that carried by the New York Central in 1850 could not have been over \$10,000,000.

In 1853 the value of exports from Buffalo by the canal was \$22,652,408, and of imports, \$64,612,102. During this year, on account of the many breaks in the canal, caused by the process of enlargement then going on, the railroads gained upon it more largely than they would otherwise have done, over previous years. Most of the business done on the canal then was by the forwarding association, the extent of the business of which is indicated by the fact that in up tolls it paid \$450,195, and in down tolls, \$774,440. In this forwarding association sixteen of the principal forwarding houses in Buffalo were interested. They represented 554 boats, each boat



worth, on the average, \$900. And besides these there were about 100 "wild" boats, each worth about \$400.

By 1855 it became evident to business men generally that the canal was in reality losing ground, as compared with the railroads. The secretary of the Buffalo board of trade said in his report for that year: "The time has now arrived in the history of our canals when their revenue fails to meet the requirements of the constitution. There is now a large deficit which will probably have to be made up by a direct tax. This is to be attributed to the railroads, and to them only." The railroads were then diverting sufficient commerce from the canal to more than pay the interest on the entire cost of enlargement, that is provided tolls were collected on what was thus diverted.

The value of exports from Buffalo by the canal in 1855 was \$30,054,283, and of imports, \$89,218,036, while the total value of imports into Buffalo was \$195,604,444, and of exports, \$165,180,920. In 1858 the value of exports by canal was \$24,267,171, and in 1859, \$16,226,911.

Since 1873, omitting the years 1875 and 1876, for which no statistics could be found, the imports into Buffalo, by way of the Erie canal, have been as follows:

1873, \$19,568,226; 1874, \$8,646,610; 1877, \$12,310,455; 1878, \$14,500,274; 1879, \$43,554,185; 1880, \$33,602,510; 1881, \$41,048,980; 1882, \$24,297,952; 1883, \$20,547,078; 1884, \$29,417,448; 1885, \$19,435,053; 1886, \$41,659,625; 1887, \$30,617,728; 1888, \$20,290,109; 1889, \$30,336,636; 1890, \$19,726,584; 1891, \$27,942,213; 1892, \$51,503,177; 1893, \$35,915,030; 1894, \$24,760,803; 1895, \$30,299,568; 1896, \$35,636,664; 1897, \$37,166,685.

The value of exports from Buffalo by way of Erie canal, during the same years has been as follows: 1873, \$49,772,070; 1874, \$46,244,875; 1877, \$38,229,716; 1878, \$43,466,806; 1879, \$48,142,030; 1880, \$50,139,048; 1881, \$34,782,568; 1882, \$35,222,430; 1883, \$35,866,394; 1884, \$43,012,050; 1885, \$28,453,110; 1886, \$48,857,116; 1887, \$39,191,827;

1888, \$30,700,182; 1889, \$25,687,232; 1890, \$30,076,784; 1891, \$36,978,035; 1892, \$37,656,565; 1893, \$53,474,254; 1894, \$37,865,302; 1895, \$20,279,881; 1896, \$31,608,123; 1897, \$18,402,447.

*Steam on the Erie Canal.*—The question of propelling canal boats on the Erie canal by steam attracted attention early in its history, as was the case on other canals in the country. In October, 1823, it was announced in the newspapers that a steamboat had been built at Pompey, which was observed to pass Onondaga, and it was thought by some that she bid fair to be a success. Still earlier than this, however, the question was raised as to how to do away with horses and mules on the tow path, and it was gravely asserted that a tread mill had been put into a boat, which, worked by two men, gave a speed of five miles per hour.

A canal boat to be propelled by steam was built in Buffalo in 1858, and named the Charles Wack. She had two propellers, one on each side of her rudder. This boat, however, did not prove a success. From time to time efforts continued to be made to secure some motive power on the canal, other than animal power. As late as April, 1871, the Legislature of the State of New York passed an Act offering a reward of \$100,000, for the successful introduction of steamboats, which, with the simple and economical machinery, would carry not less than 200 tons of cargo eastward on six feet draught of water, and make an average speed of three miles per hour in the canal, and would fully satisfy the canal commissioners, appointed by the State to practically test and examine boats and devices submitted to them, that the boats and devices and inventions would tend to lessen the cost of transportation and would increase the capacity of the canal.

By the passage of this Act inventive genius was greatly stimulated, and in 1872 there were several boats of different styles equipped with steam machinery designed to navigate the Erie canal. Among these boats were the Eureka, an iron boat of 122½ tons; the Charles Hemje, of 123½ tons; the cable boat, Hercules, designed to be oper-



STEEL CANAL BOATS ON ERIE CANAL.





ated by the Belgian cable system, which was maintained for several years between Buffalo and Lockport; the Cathcart, the Andrew H. Dawson, the George A. Feeter, the William Baxter, the William Newman, and the John Durston, all propellers, and in addition the paddle-wheel boats Port Byron, Montana, Fountain City and the Success, No. 1, of 116 tons.

After the test of the commissioners showed that none of the boats fully met the requirements of the Act of the Legislature, which called them into existence, they left the entire matter open for another trial the next season. Of all the boats entered only three of them made the three round trips required under the Act, the William Baxter, the Port Byron and the William Newman. The Baxter was 6 days and 15 hours; the Port Byron, 5 days and 11 hours, and the Newman, 5 days and 6 hours, the distance between Buffalo and Troy being 345 miles.

The next trial came off on October 15 and 16, 1873, between Syracuse and Utica. The boats taking part were the William Baxter, the William Newman, the C. C. Pope, the Port Byron and the Central City. The commissioners still thought that the requirements of the Act had not been met; but recommended that the passage of a law giving \$35,000 to William Baxter, on condition that he place on the canal seven boats similar to the William Baxter, and also recommended that \$15,000 be paid Capt. D. P. Dobbins on condition that he place on the canal three boats similar to the William Newman, during the season of 1874.

Two steam canal boat companies were organized during 1873, the Baxter Company and the Dobbins Company, which two companies were afterward combined into one, named the Baxter Steam Canal Boat Company, which company was awarded the sum of \$50,000. Since that time the use of steam on the canal has become quite common.

#### WELLAND CANAL.

It is not easy to state the precise date when a canal to connect the waters of Lake Erie with those of Lake Ontario was first

thought of, nor by whom; but it is altogether probable that it was about the time of the war of 1812. It was several years after the close of that war before any practical measures were put in operation looking to the construction of such an important waterway.

*Earliest Legislation in 1821.*—At length, however, in the year 1821, the Provincial Parliament of Upper Canada passed an Act, entitled: "An Act to make provision for the Improvement of the Internal Navigation of the Province."

Under this Act commissioners were appointed, called commissioners of internal navigation, who were to "explore, survey and level the most practicable routes for opening a communication by canals and lakes between Lake Erie and the eastern boundaries of this Province." These commissioners were James Macauley, Robert Nichol, James Gordon and Charles Jones. Their attention was chiefly occupied in exploring two great lines of navigable communication—one between Lake Erie and Lake Ontario, and the other between Lake Ontario and the Rideau and Ottawa rivers.

*Trying to Select a Route.*—In selecting the course of the waterway between Lake Erie and Lake Ontario, the commissioners had in mind what appeared to them the importance of keeping as far as was practicable in the interior of the country, and of providing good harbors at either end of the canal. As soon as practicable after organization of the board at Kingston, a deputation of two of their members was sent into the State of New York, where by conference with the canal commissioners of that State, and by a personal inspection of the work then going on on the Erie canal, they gained much valuable information. While in the State of New York they endeavored to engage the services of an experienced and skillful engineer, but without avail. These two commissioners returned from their tour of observation October 8, 1821, and reported to the board their failure to find a competent engineer, and it then became necessary to make a selection from among those at home with whom they had been in correspondence. After examining the tes-

timonials as to ability submitted to them by Valentine Gill, they decided to accept the tender of his services, as soon as it could be done.

Benjamin Wright, of New York, whose fame is deservedly high among the early engineers of the United States, agreed with the commissioners that the canal, connecting the waters of Lake Erie with those of Lake Ontario, should be on such a scale as to admit sloops and schooners of moderate dimensions to proceed direct from Lake Erie to the sea without unloading their cargoes.

The route preferred by these commissioners for the canal from Lake Erie to Lake Ontario commenced on the River Ouse (Grand River), or any other convenient point on Lake Erie, and leading to Burlington bay, at the head of Lake Ontario, the considerations being that this route began at a point, which at all seasons of the year had plenty of water to feed the canal, that it was sufficiently remote from the frontier, and that it was free from ice from three weeks to a month earlier than a point near Fort Erie. Burlington bay was preferred for the outlet of the canal, because it was a fine basin, large and deep, capable of sheltering the whole Royal Navy of Great Britain, that it also was sufficiently remote from the frontier, had a strong military position, was surrounded by a populous and highly cultivated country, and seemed destined by nature to be the center of a flourishing trade.

The outlet from Burlington bay into Lake Ontario, suggested by the commissioners, was undertaken at the public expense, and although it was not intended as a part of the project of the canal, yet, as it would render the port accessible, it was considered a work of great value to the tract of country lying to the west.

The survey of the route between Grand river and Burlington bay was made by Samuel Clowes, assisted by his son, James, and by John Harris, a land surveyor. They began operations about June 1, 1822. The estimate for the canal was as follows: 40 feet wide at bottom; 62 feet wide at the surface of the water; and seven feet deep.

The locks were to be 100 feet long and 22 feet wide in the clear. A canal of these dimensions, it was thought, would accommodate vessels of 80, or even 100, tons, and by enlarging the locks to the proper size the large class of gun brigs light might go through, and even steam vessels in emergencies. In connection with this project the commissioners said:

"The superior advantages attending such a canal, as is here proposed, would destroy the hopes and defeat the calculations of the commissioners of the American canal; as our being enabled to ship commodities on the Ouse three weeks before the lake opens at Fort Erie and Buffalo, with a certainty of their being transferred without removal direct to Montreal, would give a preference to that route, and our trade with much of that from the south shore of Lake Erie would thereby be secured to us."

Valentine Gill, above referred to as being engaged on the survey, in his report to the commissioners, made use of the following language: "With diffidence I take a retrospective view of the seemingly insurmountable barrier nature has obstinately opposed to a canal navigation between the two lakes (Erie and Ontario). It certainly requires deliberation; but, considering the great national good, the incalculable public and private advantages that will arise from so vast a navigation as this short cut will open, also, that otherwise our neighbors will engross the trade of this province by their extensive inland navigation, I feel confident these difficulties can be surmounted without hazardous innovation, and with comparatively small expense."

The commissioners of internal navigation, having this entire subject in charge, estimated that the canal from the River Ouse to Burlington bay, would cost £206,554.

*Private Company Organized.*—It is altogether probable that the great original cost of this project, that is, the cost that would be incurred in constructing the canal along this route, led to the construction of the present Welland canal. The committee, whose labors have been outlined above, made its report in 1823, the result of which report was the incorporation of a private

company, which was organized in 1824 and named the Welland Canal Company. This company proposed to establish the necessary communication between the two lakes by means of a canal and railroad. They intended running up the Welland river, passing across the township of Thorold, tunneling through the high ridge of land about a mile and a half, then proceeding directly by a canal to the brow of the hill or highland, and then by a railway down to the lowland, and connecting by another canal with the navigable waters of Twelve Mile creek, so as to afford the desired egress to Lake Ontario. The canal was to be of a capacity to accommodate "boats of not less than 40 tons."

Public meetings were held, surveys made, and other steps taken to excite public interest in the enterprise; but notwithstanding all this, upon the day of breaking ground for the beginning of the work, November 30, 1824, not half a dozen gentlemen of capital and influence in the district attended the ceremony. By 1825 the scheme as above outlined was deemed objectionable, and a new one was adopted by which the canal was to be large enough to admit schooners and sloops. It was then determined to have the entrance to the canal at Port Dalhousie, and the upper end at the Welland river, whence the supply of water for the canal was to be drawn. It was also proposed to have at an early day communication between the Welland river and Lake Erie, and to have certain locks 110 feet long by 22 feet wide, the cross section to be 26 feet at the bottom and 38 feet wide at the surface of the water, except through the deep cut, which was to be only 15 feet wide at the bottom for two miles of the length, the depth of water to be eight feet.

In the summer of 1825 the company began to carry out this project with an ostensible capital of \$800,000. In 1826 they obtained a loan of \$100,000 for three years from the Government of Upper Canada, and the promise of one-ninth of the estimated cost of the enterprise from the Imperial Government, the locks to be 22 feet wide and all government property to

pass free. In 1827 the Government of Upper Canada took stock in the undertaking to the amount of \$200,000, and the Government of Lower Canada to the extent of \$100,000. The Imperial authorities made a grant of 13,000 acres of land in the vicinity of the canal, and subsequently made a loan of \$200,000 for ten years, at four per cent. interest.

*Canal is Completed.*—In 1828 a slide of earth occurred in the excavation of the "deep cut," adding greatly to the embarrassments of the company, for it compelled them to abandon the Welland river as a feeder. They, however, carried on the work with considerable energy, for water was let into the canal in the fall of 1829, and in November of that year, exactly five years after the commencement of the work, two schooners, the largest of 85 tons, ascended the canal to the Welland river. These two schooners were the Ann and Jane, and the R. H. Boughton.

For the construction of this canal greater credit is due to Hon. William Hamilton Merritt than to any other individual. Mr. Merritt was, in 1818, a young merchant at Shipmans Corners. Besides his store he was the proprietor of a mill, and in 1818 a scarcity of water for his mill led him to put into operation a plan which he had cherished for some years, viz.: the connecting of Chippewa river and Twelve Mile creek by means of a canal. He made a rough survey of the ground with a common water level.

This first survey thus made was in due course of time followed by the present Welland canal. Mr. Merritt had often expressed himself as anticipating such an internal improvement being made, connecting Lake Erie and Lake Ontario by a navigable canal.

Mr. Merritt next presented to the Legislature a memorial, asking that an appropriation be made for a survey of the route. Nothing, however, was done during the year 1818, all the available funds having been wasted upon the route mentioned above from the mouth of the Grand river to Burlington bay, which was finally determined to be impracticable and abandoned.

Largely through Mr. Merritt's efforts the



Welland Canal Company was organized with £40,000 capital early in 1824. Mr. Merritt secured subscriptions at Quebec to the amount of \$50,000, and later in New York city to the same amount. In 1828 he went to England to raise money with which to prosecute the work on the canal, subsequently making two other visits for the same purpose. On Friday, November 27, 1829, the schooners Annie and Jane, of York, and the R. H. Boughton, of Youngstown, N. Y., passed up through the canal, being the first vessels on the canal. Reaching Buffalo on December 2, these vessels were received with a salute, and they passed down again on the 3rd of that month. Passing from Lake Ontario to the summit these vessels ascended thirty-two locks, then locked down in to the Welland river, sailed down that river to the Niagara river, and up that river to Buffalo, the British schooner Annie and Jane in advance. The Welland canal was now an accomplished fact.

Subsequently the company proposed to extend the canal over the Welland river to Port Colborne, by enlarging about five miles of the feeder and excavating a new canal for the remaining distance to Gravelly bay.

*Government Loan Secured.* — In 1831 the government approved of this project, and granted a loan of \$200,000 for the completion of the work, which was immediately commenced and completed in 1833. At that time the locks were exclusively of wood, and much smaller than at present. In 1837 the government took the step of converting all of its loans into stock, and was authorized to subscribe \$980,000 new stock, the capital of the company was declared to be \$1,195,200, and the directors were limited to the expenditure of \$400,000 per annum. In 1839 an Act was passed in Parliament, by a vote of 26 to 9, to authorize the government to purchase all the private stock, so that the work would become public property, but no steps were taken to carry out this design until 1841, when the works were placed under the control of the Board of Works. The total expenditure of the government on the canal up to this time was \$1,851,428, but, as the work was inade-

quate to the requirements of commerce, it was decided to enlarge the canal and to rebuild all the locks with stone, making them 120 feet long, 24 feet wide and  $8\frac{1}{2}$  feet deep on the sills. And also that the aqueduct should be rebuilt with stone, and that the feeder should be converted into a navigable canal, the harbors at Port Colborne and Port Dalhousie should be improved, and the first two locks at Port Dalhousie and the one at Port Colborne should be made 200 x 45 feet in size with a nine-foot depth of water on the sills.

When the improvements above outlined had been made, the Welland canal was of the following dimensions: Length of canal from Lake Erie to Lake Ontario, 27 miles and 1,099 feet; pairs of guard locks, 3; number of lift locks, 27; dimensions of locks, two of them 200 x 45 feet, twenty-four 150 x  $26\frac{1}{2}$  feet, and one 230 x 45 feet; total rise of lockage, 330 feet; and two locks each 8 feet high, making 16 feet, into the Grand river feeder, making the total lockage 346 feet. Welland river branches—Port Robinson cut to Welland river, 2,622 feet; Welland canal to Welland river, 300 feet; Chipewewa cut to Niagara river, 1,202 feet; two locks, one at aqueduct and one at Port Robinson, each 150 x  $26\frac{1}{2}$  feet; from Welland canal down to Welland river, 17 feet. Grand river feeder, 21 miles long; two locks, one of them 150 x  $26\frac{1}{2}$  feet, and one 200 x 45 feet. Port Maitland branch,  $1\frac{3}{4}$  miles long; one lock, 185 x 45 feet; total rise of lockage,  $8\frac{1}{2}$  feet. Total cost of the canal up to July 1, 1867, \$7,638,240.

Canada constructed several other canals for the purpose of increasing commercial facilities, but none of them was so successful, in a commercial sense, as the Welland. This canal is the connecting link between the upper lakes and Lake Ontario, and had drawn to it a considerable share of the Western trade. Through this canal the products of the British territory on Lakes Huron, Erie and Superior, in great part, at least, found their way to the larger cities on Lake Ontario and on the St. Lawrence, and shippers of Toledo, Milwaukee and Chicago and other Western cities of the United States sent forward a portion of their goods

through this canal to Oswego and to Montreal for transshipment to Europe.

*Tonnage on the Canal.*—From 1849 to 1869 the tonnage of the canal more than doubled; in 1849 the aggregate tonnage was only 820,000, in 1869 it was 2,500,000. In 1849 the revenue from the canal was but \$113,968, while in 1869 it was \$230,000, and, when the returns were all in, it was found that the greater portion of the tolls were collected from United States vessels. The number of United States steamers passing through this canal in 1870 was 878, while the number of Canadian steamers was 1,199, but the tonnage of the United States steamers was in the aggregate more than double that of the Canadian steamers.

In 1852 the tonnage on this canal from and to United States ports was as follows: Up tonnage, 133,330, down tonnage, 275,691; in 1853 the up tonnage was 163,031, and the down tonnage, 318,919; in 1854 the up tonnage was 162,593 tons, while the down tonnage was 247,100; in 1855 the up tonnage was 188,864, and the down tonnage, 256,901; in 1856 the up tonnage was 200,373, and the down tonnage, 341,225.

For the year ending June 30, 1868, the total tonnage that passed through the canal was 2,316,000 tons, and the tolls thereon amounted to \$222,860. The number of passengers was 7,536, and they paid tolls amounting to \$679. For year ending June 30, 1869, the tonnage amounted to 2,462,201, and the tolls amounted to \$236,648, while the number of passengers was 6,611, the tolls paid by them being \$648.

In 1868 there passed through this canal 3,225 Canadian vessels, their tonnage amounting to 548,197, and the number of United States vessels was 2,932, their tonnage amounting to 692,169 tons. The Canadian tolls amounted to \$10,664, and the United States tolls were \$16,954. In 1869 the number of Canadian vessels passing through the canal was 3,278, having a tonnage of 548,019, and the number of United States vessels passing was 2,791, their tonnage being 719,432. Tolls paid by Canadian vessels amounted to \$11,044, and the amount paid by United States vessels was \$17,387.

*Enlargement is Planned.*—In 1870 it began to be evident that the Welland canal was comparatively losing ground in its commercial value. During the preceding ten years statistics appeared to prove that it was practically at a stand still, that is, had been at a standstill from 1860 to 1869 inclusive. In 1860 its commerce amounted to 2,182,593 tons, or in other words this was the tonnage of the vessels passing through; while in 1869 this tonnage was 2,462,201, an increase of only 118,680 tons, and in 1867 it had been only 1,927,198. One of the principal reasons for this lack of growth was that Buffalo had made great and successful efforts to increase her trade and that of the Erie canal, and another reason was that the vessels built on the upper lakes were increasing in size, so that there was constantly a diminishing proportion of them that could pass through this canal, and in point of fact the number of those that could pass through was actually decreasing. It had become evident, then, that the larger the vessel the cheaper could she carry freight, and as soon as it became evident that three-fourths of the vessels on the upper lakes could not pass the Welland canal, it at the same time became equally clear that the enlargement of that canal was necessary, or that it must constantly lose a greater proportion of the trade and commerce of the Great Lakes, which Canada very naturally disliked to see go to the Erie canal, desiring it to go down to and through the St. Lawrence canals. The only way, therefore, for Canada to compete for the lumber, iron, copper and grain trade of the upper lakes, was to enlarge the canal. There were then but four great through routes from the West and North to the seaboard—First, the several railroad lines; second, the Great Lakes and the Erie canal; third, the Great Lakes, the Welland and the Oswego canal, and fourth, the Great Lakes, the Welland and the St. Lawrence canals. To the prosperity of the latter two routes the Welland canal was essential, and both Oswego and Kingston would be immediately benefited the moment the Welland should be enlarged. An elaborate compilation of statistics was made to show that the

natural waterway, the St. Lawrence, must eventually compete successfully with the artificial waterway, the Erie canal, for the commerce of the upper lakes.

"Into our hands must come, sooner or later," says the report, "the carriage of the great bulk of the produce required by Great Britain, who now chiefly receives her supply from Russia, Germany, the United States, Turkey, the Danubian Provinces, Chili and Egypt.

"When the propellers mostly in use in Western waters can come directly to Montreal or Quebec, and there transfer their cargoes to larger vessels necessary for European traffic, or go on to Boston through the Gulf of St. Lawrence and the 'Bay Verte canal' (which must shorten the distance to Portland and Boston about 500 miles), then freights on Western produce will be reduced to a minimum, and New York will acknowledge what it now fears, that the success of the Erie canal is a thing of the past, and that the Western trade has followed the universal law, which must obtain sooner or later everywhere, which no legislation can alter, no enterprise balk, that commerce always seeks the cheapest and most expeditious channels of communication with its markets."

From the above and other similar considerations it was determined to enlarge the canal. Up to that time the Grand river had been relied upon as the feeder. This river rises in the southern part of Grey county, within thirty miles of Georgian Bay, and after a circuitous course of 130 miles through Wellington, Waterloo, Wentworth, Perth, Oxford, Brant and Haldimand counties, draining an area of 2,600 square miles, flows into Lake Erie. It was estimated that if one-half of the water that fell within the limits of its watershed could be stored and utilized as required it would furnish 275,000 cubic feet of water per minute, or about nine times as much as would be required by the enlarged canal; but this could not be accomplished, and only a mere fractional part of this supply could be used. In fact, ever since 1833 the Grand river had afforded only a precarious supply of water, and it had been for years foreseen that as the

country drained by the Grand river became cleared of its forests and settled it could not be depended on as a feeder, and hence the plans for the enlargement of the canal also contemplated the making of Lake Erie the summit and feeder of the canal.

*Tonnage and Tolls for Two Decades.*—

The following table shows the tonnage and tolls on freight and passengers passing through all the Canadian canals from 1850 to 1870 inclusive:

YEAR	TONNAGE	TOLLS
1850.....	1,037,390	\$ 239,898
1851.....	1,416,794	279,229
1852.....	1,497,614	314,114
1853.....	1,805,709	355,194
1854.....	1,687,304	293,286
1855.....	1,714,642	302,152
1856.....	2,007,263	359,597
1857.....	1,837,007	319,302
1858.....	2,335,480	274,898
1859.....	2,447,766	196,222
1860.....	2,583,701	286,434
1861.....	2,614,892	369,681
1862.....	3,113,728	438,702
1863.....	3,052,275	337,697
1864.....	812,496	91,371
1865.....	2,537,897	258,493
1866.....	2,955,386	279,157
1867.....	3,235,754	293,495
1868.....	3,599,043	332,174
1869.....	3,605,039	320,773
1870.....	4,276,820	389,179

During the fiscal year, ending June 30, 1870, there passed through the Welland canal the following number of vessels:

Canadian—Steamers.....	1,199	of	104,100 tons
Sailing vessels.....	2,657	of	487,474 tons
Total.....	3,856		591,574 tons
United States—Steamers.....	878	of	271,243 tons
Sailing vessels.....	2,006	of	494,300 tons
Total.....	2,884		765,543 tons
Tolls collected on Canadian vessels.....			\$11,828
Tolls collected on United States vessels.....			18,937

In 1871 the tons of freight that passed through this canal was 3,002,925, the tolls on which amounted to \$286,228. The number of Canadian vessels was 4,270 and their tonnage amounted to 625,788; and the number of United States vessels was 3,459, having a tonnage of 928,330.



The rivalry between the Welland canal and the canals through the State of New York for the carrying trade to the seaboard begins at the foot of Lake Erie. If, therefore, vessels of a very large carrying capacity could pass downward through the Welland canal and proceed thence to the side of ocean bound ships, a great object would be accomplished, and a route established which might reasonably be expected to compete with the Erie canal, and with the railroads passing through New York State. In 1845 all the vessels engaged in the grain trade on the upper lakes could pass through this canal, but in 1855 there were at least twenty propellers that could not use the canal on account of their size. In 1872 there were at least sixty propellers that could not pass through the Welland canal, and since that time the number has steadily and very largely increased. In 1871 the average load carried through the canal in United States vessels was 392 tons, while that carried down by Canadian vessels was 424 tons. And it was then evident that the requirements of trade rendered it imperative that the cost of transportation of freight should be reduced to the lowest possible rates. This reduction in the cost of transporting freight has since then been constantly in progress, and now (1897) the rates of freight on the Great Lakes are lower than ever before.

This reduction has been largely secured by the greatly increased carrying capacity of single vessels on the lakes, for while at one time 500 tons was considered a large cargo, it is now becoming common for vessels to carry nearly and sometimes upward of 5,000 tons, a number of cargoes of grain carried during the summer of 1897 exceeding 6,000 tons. It was the foreseen necessity of larger boats, and the desire to pass them through the Welland canal, that led to the enlargement and improvement of that waterway in 1873.

At that time the Lake Erie entrance to the canal at Port Colborne was formed by means of piers extending into the lake—that on the westerly side being 1,600 feet long beyond the shore line, and that on the eastern side being 500 feet long. At the shore

line these piers were 150 feet apart, and from that point to the head of the lock the distance was 2,390 feet. The basin then had an area of about nine acres, being 1,475 feet in length and of an average width of 265 feet. But the work of enlarging the basin 725 feet in a southerly direction to a depth of eighteen inches below the miter sill of the lock, together with that of making the entrance channel at other places fully two feet under the level of the lock sills, was then under contract. And at the completion of the work the basin was 2,200 feet long, and had an area of eleven and a half acres.

The harbor had a good width at the entrance, and there was no danger to be apprehended in approaching it from the west, but from the southeast by east, at a distance of 800 feet from the lighthouse at the head of the west pier, there was a reef, on a portion of which at low water there was a depth of but eight and a half feet of water. It was, therefore, proposed to construct a breakwater alongside of this reef throughout its entire length, about 2,000 feet, and in this way not only greatly reduce the danger from the reef itself, but at the same time procure a harbor containing about forty acres. This it was thought would furnish a harbor of refuge for such vessels as had need to run into such a place in rough weather. The total cost of this improvement was estimated at \$2,200,000.

At this same time the Lake Ontario harbor to the Welland canal was situated at the natural outlet at Twelve Mile creek, near the village of Port Dalhousie. Its entrance was formed by means of two parallel piers running in a north and south direction nearly 2,100 feet into the lake, the space between the piers being equal to about nine and a half acres, and the usual depth at original low water being from  $11\frac{1}{2}$  to 12 feet. Between the inner end of the entrance piers and the first lock in the Welland canal, the basin had an area of seven acres, which it was thought easy to increase to seventeen acres at any time, and the work connected with deepening the entrance channel to 14 feet and the basin to  $13\frac{1}{2}$  feet at the inner end of the piers, and to 13 feet at the lock

over an area of about ten acres, was then under contract.

It was in 1872-73 that these two harbors, at Port Dalhousie and at Port Colborne, were enlarged and deepened, and a contract was entered into for enlarging the entire canal. Elaborate surveys were made and the estimates reduced to the nearest approximation. The enlargement of the canal also required the enlarging of the feeder from Grand river by two feet from the junction to Port Maitland branch at Broad creek, and thence upward to Dunnville, where an additional depth of eighteen inches was obtained, thus increasing the supply of water to the canal. About this time W. F. Biggar succeeded S. D. Woodruff as superintendent of the canal.

One of the most difficult problems in connection with the success of the Welland canal was the instability of the banks at the "Deep Cut," an excavation through the highest ridge of land on the line near the northern end of the summit of the level. This cut is nearly two miles in length, and there the extensive slides and movements of the banks that would occur on that part first led the Welland Canal Company, in 1828, to abandon their original design of drawing the water from the Welland river, and to use the Grand river as a feeder.

But the Grand river has sometimes threatened to fail, or at least partially fail, as a source of supply. In the early part of June, 1871, the water in the feeder canal between Dunnville and the Welland junction declined below its original height, and Grand river, whence the supply is obtained, fell so low as seriously to lessen the depth at the summit level; and while navigation was not interrupted yet it was found necessary to shut off the water from the mills above Allanburgh. It was noted at the time that the Grand river during dry seasons was every year falling more and more, and was consequently failing to furnish the required supply of water, and at the same time the tonnage of the canal was continually increasing from year to year, thus requiring an increased supply of water. The canal commissioners therefore recommended that the rock walls,

waste weirs and banks from Allanburgh to Port Dalhousie be raised in a permanent manner, so as to admit of vessels drawing 12 feet of water, and also that the canal locks be enlarged to 270 feet in length, and to a proportionate width. At that time the smallest locks on the canal were 150 feet long by 26½ feet wide, and the largest vessel that could pass through were 142½ feet long by 26¼ feet wide, and drew 10 feet of water. Such a vessel would carry only about 400 tons. On July 21, 1871, John Page, chief engineer of public works, estimated that to obtain a depth of 12 feet of water throughout the entire length of this canal, would cost \$1,924,000.

But a more comprehensive plan of improvement than merely to increase the depth of the canal was determined on, and in 1873 the work was carried on, costing, from Port Colborne to Thorold, \$4,060,000, and from Thorold to Port Dalhousie, \$5,180,000, or in all \$9,240,000. The scheme adopted for the width of this canal was that it should be 100 feet wide at the bottom and slope up on each side one foot in two. The locks were enlarged to 270 feet in length, and between the quoins the width was made 45 feet, with a depth of 13 feet.

From Thorold, at the head of the old system of locks, the channel was made to diverge so as to make a circuit past St. Catharines, emerging at Port Dalhousie and thus to give two outlets into Lake Ontario.

Since the above enlargement took place in this canal its dimensions have been as follows:

MAIN LINE FROM PORT DALHOUSIE, LAKE ONTARIO, TO PORT COLBORNE, LAKE ERIE.

	OLD CANAL	NEW CANAL
Length of canal.....	27½ miles.	26¾ miles.
Pairs of guard-gates (formerly 3) {	.....	2
Number of { lift	26	lift 25
locks { guard	1	guard 1
Dimensions .....	1 lock 200x45	{ 270 feet x
	1 " 200x45	
	1 (tidal) 230x45	
	24 locks 150x45	
Total rise, or lockage	326¾ feet.	326¾ feet.
Depth of water on sills	10¼ "	14 "

## WELLAND RIVER BRANCHES.

Length of canal—  
 Port Robinson cut to river  
 Welland ..... 2,622 feet.  
 From the canal at Welland,  
 to the river, via lock at  
 aqueduct ..... 300 "  
 Chippewa cut to river Niag-  
 ara ..... 1,020 "  
 Number of locks—One at aqueduct and one at Port Robinson ..... 2 "  
 Dimensions of locks ..... 150x26½ feet.  
 Total lockage from the canal at Welland down to the river Welland ..... 10 feet.  
 Depth of water on sills ..... 9 feet, 10 inches.

## GRAND RIVER FEEDER.

Length of canal ..... 21 miles.  
 Number of locks ..... 2  
 Dimensions of locks ..... 1 of 150 by 26½ feet.  
 1 of 200 by 45 "  
 Total rise or lockage ..... 7 to 8 feet.  
 Depth of water on sills ..... 9 feet.

## PORT MAITLAND BRANCH.

Length of canal ..... 1¾ miles.  
 Number of locks ..... 1  
 Dimensions of locks ..... 185 by 45 feet.  
 Total rise or lockage ..... 7½ feet.  
 Depth of water on sills ..... 11

The Welland canal has two entrances from

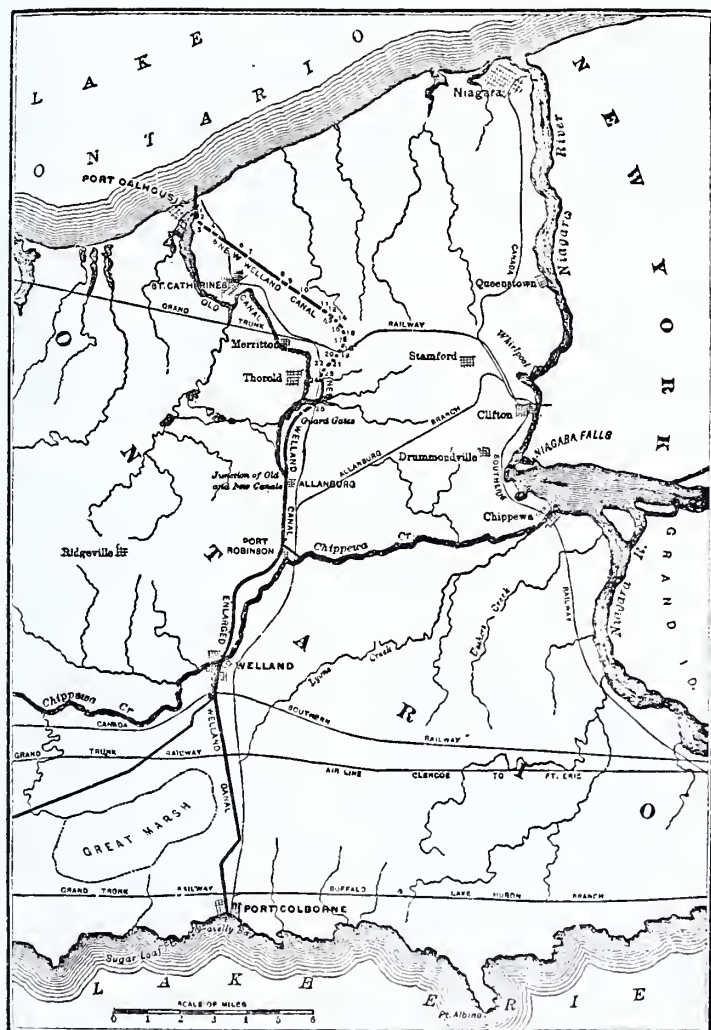
Lake Ontario, at Port Dalhousie, one for the old, the other for the new canal. From Port Dalhousie to Allanburgh, 11¾ miles, there are two distinct lines of canal in operation, the old line and the enlarged or new line. From Allanburgh to Port Colborne, a distance of 15 miles, there is only one channel, the old canal having been enlarged.

In 1883 the canal was opened to vessels drawing twelve feet of water, and in May, 1887, to vessels drawing fourteen feet of water.

During the year 1873 there passed up and down this canal 6,205 vessels, with an aggregate tonnage of 1,397,388, and the tonnage collected amounted to \$277,144. The number of passengers for the year was 7,620.

During the year 1891 the number of vessels passing through this canal, together with their nationality and classification, were as follows:

Canadian—Steam, 81, with an aggregate tonnage of 29,290; sailing, 113, with an aggregate ton-



THE WELLAND CANAL, BETWEEN LAKE ONTARIO AND LAKE ERIE.



nage of 23,680; United States—steam, 80, with an aggregate tonnage of 46,537; sailing, 97, with an aggregate tonnage of 31,918.

The following table shows the number of loaded vessels and their tonnage, passing down through the Welland canal from 1882 to 1896, inclusive.

YEAR	CANADIAN				UNITED STATES			
	STEAM		SAIL		STEAM		SAIL	
	NO.	TONS	NO.	TONS	NO.	TONS	NO.	TONS
1882.....	174	62,465	432	121,150	41	17,402	329	57,257
1883.....	180	68,850	468	130,844	111	68,602	417	127,616
1884.....	173	68,250	285	73,057	99	67,637	364	97,724
1885.....	199	67,041	347	80,828	81	35,613	350	106,573
1886.....	261	95,428	426	123,297	118	86,937	358	108,344
1887.....	250	86,344	372	101,745	101	94,029	163	46,132
1888.....	242	86,838	339	93,450	114	104,505	219	60,500
1889.....	317	106,048	427	118,071	208	172,873	268	92,442
1890.....	342	110,056	443	117,400	202	204,542	142	50,622
1891.....	256	107,575	173	68,061	241	241,317	130	50,063
1892.....	229	100,324	186	73,140	245	248,837	134	52,087
1893.....	193	100,107	143	58,632	590	375,682	236	122,326
1894.....	199	104,649	112	57,688	287	279,621	144	63,770
1895.....	209	108,776	151	73,895	205	223,743	101	41,327
1896.....	224	122,521	181	82,543	343	357,983	163	96,506

The following statement shows the amount of money expended on the construction, renewals, staff and repairs of this canal from the beginning of its history down to the present time:

YEAR	CONSTRUCTION	RENEWALS	STAFF	REPAIRS
IMPERIAL GOVERNMENT	\$2,999,220			
PRIOR TO CONFEDERATION	7,416,020			
SINCE CONFEDERATION				
1868	12,098		\$ 37,679	\$ 38,853
1869	43,486		30,061	50,773
1870		\$ 22,174	40,340	65,099
1871		48,569	42,383	53,381
1872	53,680	6,022	34,085	50,277
1873	82,282	47,876	45,383	66,551
1874	746,423		50,966	103,667
1875	1,047,120		52,595	88,540
1876	1,569,478	700	57,263	81,376
1877	2,199,963		59,963	49,784
1878	2,138,393		60,139	66,394
1879	1,552,697		59,942	56,756
1880	1,252,925		63,198	76,535
1881	1,242,943	6,593	56,398	69,241
1882	603,402	13,665	74,642	84,375
1883	549,433	5,979	109,707	72,708
1884	432,336		113,277	90,927

YEAR	CONSTRUCTION	RENEWALS	STAFF	REPAIRS
1885	\$ 463,505	\$ 6,150	\$ 112,670	\$ 91,535
1886	215,381	1,359	111,660	69,507
1887	1,071,074	3,825	109,372	77,441
1888	420,721	10,741	100,806	86,519
1889	225,910	43,804	113,587	77,548
1890	117,633	51,848	109,202	72,686
1891	36,371	19,768	107,663	82,548
1892	29,541	9,009	104,674	73,772
1893	8,260	25,103	104,927	65,017
1894	1,572	13,430	102,919	53,054
1895	3,809	24,245	90,478	48,271
1896	1,678	18,769	87,988	62,543
1897	2,282	22,283	88,095	41,248
Total....	\$23,771,636	\$401,716	\$2,352,983	\$2,066,842

The following table shows the aggregate number of vessels, and the total quantity of freight, passed through the Welland canal, and also the quantity passed between United States ports during the years from 1867 to 1895, both inclusive:

FISCAL YEAR	AGGREGATE NUMBER OF VESSELS	TOTAL QUANTITY TRANSPORTED	BETWEEN UNITED STATES PORTS
1867.....	5,405	933,260	458,386
1868.....	6,157	1,161,821	641,711
1869.....	6,069	1,231,903	688,700
1870.....	7,356	1,311,956	747,567
1871.....	7,729	1,478,122	772,756
SEASON OF NAVIGATION.			
1872.....	6,063	1,333,104	606,627
1873.....	6,425	1,506,484	656,208
1874.....	5,814	1,389,173	748,557
1875.....	4,242	1,038,050	477,809
1876.....	4,789	1,099,810	488,815
1877.....	5,129	1,175,398	493,841
1878.....	4,429	968,758	373,738
1879.....	3,960	865,664	284,043
1880.....	4,104	819,934	179,605
1881.....	3,332	686,506	194,173
1882.....	3,234	790,643	282,806
1883.....	3,267	1,005,156	432,611
1884.....	3,138	837,811	407,079
1885.....	2,738	784,928	384,509
1886.....	3,589	980,135	464,478
1887.....	2,785	777,918	340,501
1888.....	2,647	878,800	434,753
1889.....	2,975	1,085,273	563,584
1890.....	2,885	1,016,165	533,957
1891.....	2,594	975,012	553,800
1892.....	2,615	955,554	541,065
1893.....	2,843	1,294,823	631,667
1894.....	2,412	1,008,221	592,267
1895.....	2,222	869,595	469,779
1896.....	2,766	1,279,987	653,213

The following table shows the tonnage of grain, vegetables, coal and ores passing

through the Welland canal during a series of twenty-five years, ending with December 31, 1895 (grain includes flour, wheat, corn, barley, oats and rye):

YEAR	GRAIN	VEGE- TABLES, FRUITS, ETC.	COAL	ORES
	TONS	TONS	TONS	TONS
1869.....	501,923	1,937	103,126	58,781
1872.....	535,402	2,745	186,932	98,605
1873.....	576,103	3,777	339,016	118,685
1874.....	638,720	8,677	323,503	56,825
1875.....	411,599	6,337	321,306	43,683
1876.....	406,590	3,198	288,211	81,654
1877.....	461,826	2,355	323,869	42,758
1878.....	401,101	2,302	295,318	15,229
1879.....	436,120	2,444	192,957	19,164
1880.....	440,702	1,480	109,986	34,139
1881.....	267,309	2,086	128,113	18,785
1882.....	306,079	403	237,559	23,700
1883.....	362,343	10,983	307,058	31,785
1884.....	296,566	9,168	274,471	53,205
1885.....	271,993	1,912	248,272	26,728
1886.....	400,155	14,657	271,356	27,447
1887.....	382,438	12,533	145,193	13,866
1888.....	406,178	13,608	223,871	16,872
1889.....	523,491	18,552	268,305	2,435
1890.....	498,425	20,876	202,384	8,138
1891.....	339,135	28,042	224,644	3,415
1892.....	494,611	32,815	211,616	355
1893.....	768,372	36,981	233,096	.....
1894.....	530,736	60,673	203,608	.....
1895.....	441,958	46,463	158,866	1,140
1896.....	832,427	56,591	223,445	1,158

*Refunding of Tolls.*—The refunding of tolls on the Welland canal has been a question of great interest to the people of both Canada and the United States. In 1882 tolls were abolished on the Erie canal, which gave to commerce passing to the seaboard through that canal a great advantage over that by way of the Welland canal and the system of St. Lawrence river canals. Application was therefore made to the Governor-general of Canada for a system of refunding of tolls on export grain, passing down through the Welland canal. For the year 1884, and up to June, 1885, the refunding of tolls on grain amounted to 10 cents per ton; from July 1, 1885, to December, 1891, it amounted to 15 cents per ton, and

for 1892 it was 18 cents per ton, the tolls during this time being 20 cents per ton.

During the season of 1892 there passed down the Welland canal, and were transhipped at Canadian ports for Montreal, 195,224 tons of grain, which was exported out of the country, upon which the rebate of 18 cents per ton was made, the refund amounting to \$35,140.

President Harrison, of the United States, issued a proclamation August 20, 1892, under authority of an Act of Congress, approved by him July 26, 1892, imposing a toll of 20 cents per ton on all freight passing through St. Mary's canal in transit to any port of Canada, whether in vessels of the United States or of other nations. The proclamation recited the 20 cent per ton toll on grain passing through the Welland canal, and the rebates made by the Government of Canada on grain shipped to Montreal or any port east of it for export, but allowing no rebate when the grain is shipped to a port of the United States, or when carried to Montreal and thence shipped through the United States. He declared this a discrimination against citizens of the United States in the use of the Welland canal in violation of the treaty of 1871.

The result of this proclamation by the President of the United States was that, in 1893, by an Order-in-Council dated February 13, 1893, the tolls were reduced to 10 cents per ton on grain passing through the Welland canal, irrespective of its destination, and the same rates of toll were allowed for 1894, by Orders-in-Council of April 16, 1894. The rate of toll on the St. Lawrence canals, only, was ten cents per ton. Goods having paid full tolls on the Welland canal were allowed to pass down through the St. Lawrence canals free of toll. Since 1894 the toll or duty on grain passing through the Welland canal has been 10 cents per ton, and there has been no refunding of tolls.

## CHAPTER XIX.

### LAKE CANALS. CONCLUDED.

UNITED STATES SAULT STE. MARIE CANAL. LARGE DONATIONS OF MICHIGAN LAND BY CONGRESS TO BUILD THE CANAL—EASTERN CAPITALISTS UNDERTAKE AND COMPLETE THE WORK—FIRST PASSAGES—SUBSEQUENT IMPROVEMENTS—NEW LOCK OPENED IN 1896.

CANADIAN SAULT STE. MARIE CANAL. WHY IT WAS CONSTRUCTED—ITS COST—VARIOUS SCHEMES—OPENING—FIRST VESSEL TO PASS THROUGH, ETC.

OTHER CANALS, ETC. IMPROVEMENT OF THE WATERS CONNECTING THE GREAT LAKES—SYSTEM OF THE ST. LAWRENCE RIVER—HAY LAKE CHANNEL—ST. CLAIR FLATS CANAL—DETROIT RIVER—CANALS OF THE ST. LAWRENCE RIVER—CANAL SYSTEM OF OHIO—PORTAGE LAKE SHIP CANALS—SHIP CANAL COMPANIES—PURCHASED BY GOVERNMENT—STURGEON BAY AND LAKE MICHIGAN SHIP CANAL—IMPROVEMENT OF THE ILLINOIS RIVER—ILLINOIS AND MISSISSIPPI CANAL—CHICAGO DRAINAGE CHANNEL—DEEP WATER-WAY TO OCEAN TIDE—PROJECT TO CONNECT GEORGIAN BAY AND LAKE ONTARIO—OTTAWA AND GEORGIAN BAY CANAL—PITTSBURGH SHIP CANAL.

#### UNITED STATES SAULT STE. MARIE CANAL.

THE desirability of connecting by navigation the waters of Lake Superior with those of the lower lakes must have suggested itself to every active mind interested in the great lakes a half century ago. Copper mining was beginning to attract settlers in that region, and increased lake traffic to and from Lake Superior demanded the construction of a ship canal.

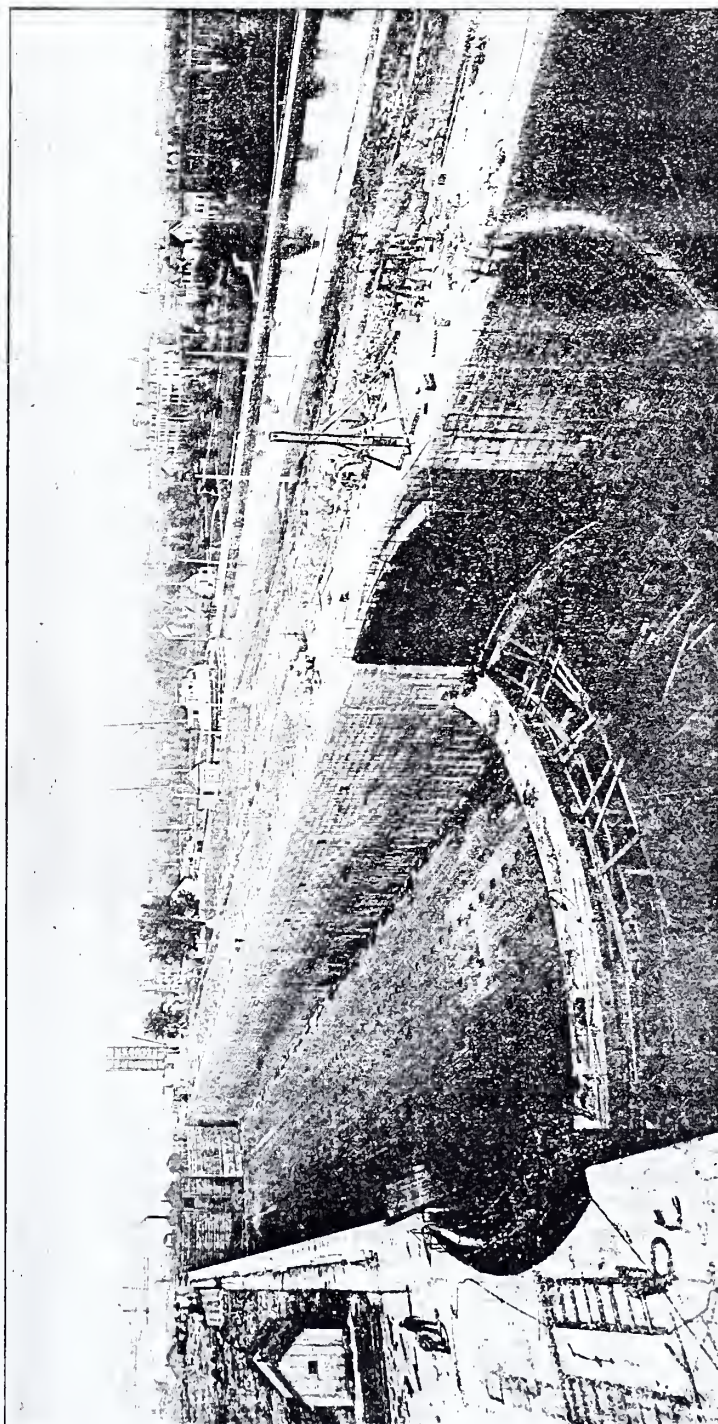
Says C. H. Keep, in his "Internal Commerce of the United States:" "A preliminary survey and estimate for the building of the St. Mary's Falls ship canal was undertaken. In the enterprise the Hon. O. D. Conger (afterward a member of Congress and senator from Michigan) took an active part, although we think the late John Burt, of Michigan, was director of the survey. The reports thereof, as submitted, induced the Congress of the United States to pass an Act donating to the State of Michigan 750,000 acres of the public lands within its borders for the purpose of building a ship canal around the falls, stipulating, however, that the canal should be not less than 100

feet in width and 12 feet deep, with two locks not less than 250 feet long and 50 feet wide."

Charles T. Harvey, of Nyack, N. Y., was largely instrumental in drafting the State law to govern the prosecution of the projected work. It was at his instigation that the size of the locks was increased to 350 feet in length and 75 feet in width, with a lift of 18 feet to overcome the difference between the levels of the lower St. Mary's river and the waters of Lake Superior.

The proper legislation on the part of the State of Michigan having been secured, Mr. Harvey brought the subject to the attention of some of the wealthy men of the country, among whom were the Hon. Erastus Corning, of Albany, N. Y., then president of the New York Central Railroad Company, Governor Horatio Seymour, of Utica, N. Y., and Hon. Joshua Fairbanks, of St. Johnsbury, Vt. These men, with others, formed a syndicate and agreed to build the canal and locks complete, and to take in full payment therefor the 750,000 acres of land donated by the government. This proposition was accepted by the State of Michigan, and





THE NEW TOE LOCK, IN THE AMERICAN CANAL, SAULT STE. MARIE, MICH.



a formal contract was awarded them. Under a charter obtained in New York the St. Mary's Falls Ship Canal Company was organized. Mr. Harvey was appointed general agent, and about June 1, 1853, he landed at Sault Ste. Marie with a force of 300 or 400 men, and the work was duly commenced.

Prior to the commencement of actual work on the canal, Capt. Augustus Canfield, of the United States Engineer Corps, had been designated on the part of the general government to superintend the work on its behalf, while Colonel Glenn, of Niles, Mich., a civil engineer, was designated as the resident engineer on behalf of the State of Michigan (the latter subsequently selected as his assistant Mr. Nichols, who had more or less experience with canal building by a long supervision of the Erie canal and its branches between Buffalo and Albany, N. Y.). They encountered many difficulties and serious obstacles in the undertaking.

In the winter of 1853 and 1854, the managers of the syndicate being somewhat discouraged as to the reported progress of the work, which was due in part to the infrequency of the transmission of the mails between Sault Ste. Marie and the East, and Mr. Harvey being unable to leave the work as then progressing for the purpose of visiting the managers, J. T. Whiting, who had become a prominent business man at Sault Ste. Marie, undertook to visit and give to the managers of the syndicate a personal statement as to the actual condition and prospective progress of the undertaking. The journey was duly accomplished, although it involved a walk on snow shoes from Sault Ste. Marie to Saginaw, a distance of about 400 miles.

The result of the trip proved highly satisfactory in stimulating the directors of the canal company to have the work pushed with renewed energy from and after the opening of navigation in the following spring. All obstacles and perplexities were conquered in such a manner that the canal was completed April 19, 1855; but, owing to a leak in the north bank, no boats were passed through until June 18, following, when the steamer Illinois, commanded by Capt. Jack Wilson, passed through it bound

up, *en route* for the then generally used ports of Lake Superior. She was followed the same evening by the steamer Baltimore, commanded by Capt. John Reed, bound down for Buffalo. From this date the canal, with its locks, was brought into general use.

Sheldon McKnight and the Chippewa Portage Company, prior to the completion of the canal, had placed the following named propellers and side-wheel steamers on the route between Cleveland, Detroit, Sault Ste. Marie and the various ports on Lake Superior, viz.: The Monticello, Baltimore, Peninsular, Ben Franklin, London, Albany, and Illinois, the Monticello, Baltimore and Peninsular having been hauled across the portage as the business required.

The construction company was organized with a capital of \$1,000,000. The actual cost of building the canal was something less than \$900,000.

The canal, under the grant of land for its building by the Act of Congress being held in trust by the State of Michigan for the benefit of all concerned, was placed in the hands of the State Board of Control, consisting of the governor, State treasurer, and auditor-general who, by virtue of their authority, appointed John Burt resident engineer and superintendent of the same. They also had the power to fix and establish the rate of toll that should be charged on the registered tonnage of all vessels passing through the canal; and this was done, taking effect with the first boat passing through and continuing in force until the State of Michigan ceded all its right, title and interest in the canal back to the general government in the spring of 1881, when the toll system was abolished, and the canal became a free waterway, open to the navigation and commerce of all who desired to use it.

This canal was a little over a mile in length, 100 feet in width at the water line, and with an available depth of 12 feet. There were two locks, each 350 feet long and 70 feet wide, with 12 feet of water on the sill, and a total lift of 18 feet. The increase in size of lake vessels soon made it apparent that this canal was entirely inade-



quate for the work it had to do. In 1870 the United States Government made its first appropriation for improving the canal so as to obtain a 16-foot navigation. The canal was made  $3\frac{1}{2}$  feet deeper. Its sloping walls were removed and a timber revetment was substituted. A new lock was built to take the place of the two old ones. This lock is a magnificent piece of work, with a chamber 515 feet in length and 80 feet wide, and a lift of 18 feet. These improvements were completed, and the new lock was open for business in 1881. The entire cost of this improvement was \$2,404,124. The additional depth of water thus provided was followed by an enormous increase in the amount of commerce. The wonderful growth of the traffic of the St. Mary's Falls canal is shown by tables in another chapter.

Only five years after these improvements on the canal were completed the development of the commerce of Lake Superior was such as to show that further facilities would be needed as soon as they could be obtained. The River-and-Harbor Act of August 5, 1886, appropriated the sum of \$250,000 for beginning the work of enlarging the canal and the construction of a new lock and approaches. Following the passage of that Act a general project for the work of enlargement was submitted. The purpose was to give a navigation of 20 feet in depth. The traffic could no longer be subjected to the risk of interruption through an accident to a single lock. A new lock 800 feet long and 100 feet wide throughout, with 21 feet of water on the sills and a lift of 18 feet, forms part of a proposed improvement. The prism of the canal was deepened so as to correspond with the available draft of water in the lock. The estimated cost of this improvement was \$4,738,685. Two years of valuable time were lost through the failure of Congress to make proper appropriations for the work, but the River-and-Harbor Act of 1890 contained an appropriation of \$900,000 therefor, which was followed by a further appropriation of \$600,000 in the sundry civil bill of March 3, 1891. The River-and-Harbor Act of 1890 also contained a provision authorizing the Secretary of War in his discretion to

contract for the entire work, thus committing Congress definitely to sufficient appropriations for its rapid and continuous prosecution. The opening of this new lock occurred August 1, 1896.

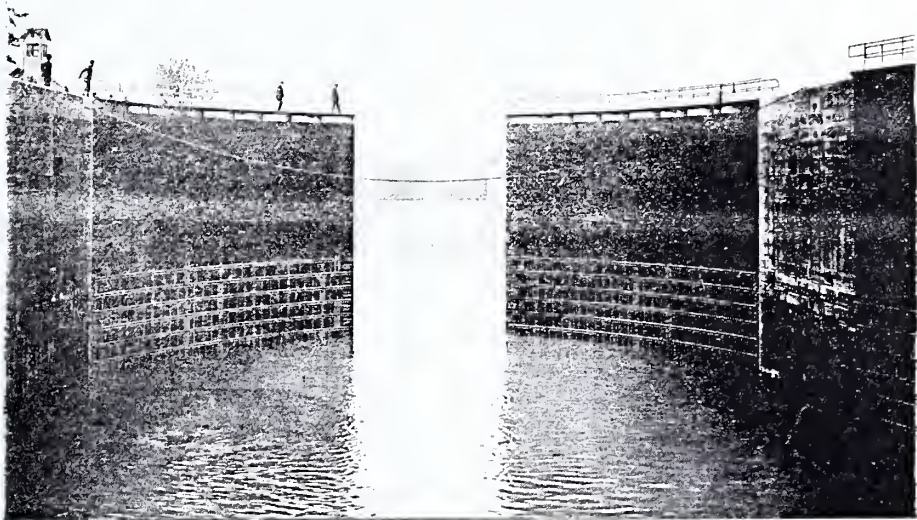
#### CANADIAN SAULT STE. MARIE CANAL.

In the year 1887 it began to be evident that the United States Sault Ste. Marie canal, large as it is, was rapidly becoming too small for the increasing demands that were being made upon it. Vessels were not uncommonly compelled to wait twelve hours, and in some cases thirty-six hours, for their turn to lock through it. The Canadian Pacific railroad steamers were among those that had at times to wait. Besides these considerations, the Government of the Dominion of Canada could not ignore the fact that differences might arise between England and the United States, which would close the United States canal to Canadian commerce and vessels. For these reasons it appeared the part of prudence that a canal, independent of the United States canal at all times, should be constructed, and the result was the Canadian Sault Ste. Marie canal.

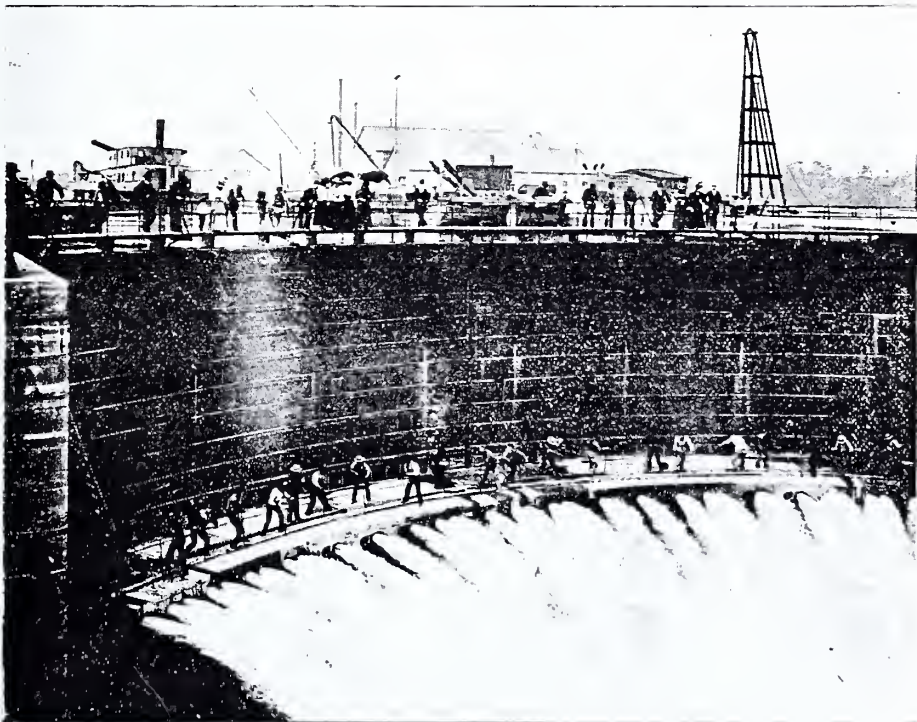
This canal is constructed through St. Mary's island, on the north side of the rapids of St. Mary's river. The length of the canal across the island is 3,500 feet, and as a considerable amount of excavation was required to form channels of approach both at the upper and lower ends of the canal, the total length of the canal and its approaches is 18,100 feet.

The first money appropriated for the construction of this canal was \$8,145, in 1888, and in 1889 the sum of \$34,019 was voted for the construction of this great work. For contract purposes the work on this canal and its approaches, was divided into three sections, and contracts entered into as follows for the performance of the work: For the lower approach, January 30, 1889; for the upper approach, March 26, 1889, and for the canal and lift lock, November 20, 1888.

The scheme covered by these contracts contemplated a lift lock with a chamber 600 feet long and 85 feet wide, the depth of



AMERICAN LOCK—SAULT STE MARIE.



FILLING AMERICAN LOCK—SAULT STE. MARIE.





water on the sills to be 16½ feet at the lowest stage of water known. The width of the gate entrance to the lock was to be 60 feet, the lock being designed to pass two vessels at a lockage. The prism of the canal was to be 18 feet below the lowest known water level of the river above St. Mary's island. Afterward, however, a supplemental agreement was entered into, June 19, 1891, by which the following dimensions were to be given to the lock: length of lock chamber, 650 feet; width, 100 feet; depth of water on the sills, 19 feet; and the time of completion was extended from May 10, 1892, to May 10, 1893. A second supplemental contract was therefore made with the contractor April 5, 1892, by which it was agreed that the lock should be 900 feet long and 60 feet wide, and that the water should be 20 feet, 3 inches on the sills at the lowest stage of water in the river below the lock. The date for the completion under this agreement was fixed for December 31, 1894.

Still later a further supplemental agreement was made by which the date of completion was fixed at July 1, 1894, and in this agreement it was stipulated that the water should be 22 feet deep below the lowest known water level.

By the changes thus agreed upon, the lock, when completed, would be able to pass three vessels at a time, one of the regular lake type, 320 feet long, and two others of the Welland-canal type, each 255 feet long. The canal proper has a width of 152 feet at the water level, and at the bottom of 145 feet, and the depth is such that vessels drawing 20 feet of water can pass at the time of extreme low water.

The water was let into this canal October 15, 1894, and the steam tug *Rooth*, was locked through by hand. But it was not until Saturday, September 7, 1895, that the canal was formally opened to navigation by passing through the new Canadian passenger steamer *Majestic*, under command of Capt. Peter M. Campbell, commodore of the Great Northern Transit Line, with some 700 passengers on board. On Monday, September 9, 1895, the canal was formally opened to public business, the first lockage

consisting of the American steamers *Uganda* and *City of London*, with a tonnage of 3,383, loaded with 146,000 bushels of wheat, on a draught of water of fourteen feet, four inches. The first day's work of nine hours consisted of the passing through the lock of forty-one vessels, with an aggregate tonnage of 44,469 tons, with green hands and not a mishap. Up to the close of navigation for that season, December 6, 1895, the canal was operated only during the day, the range lights at the entrances not having been erected.

The canal was opened for the season of 1896, May 7, and up to the close of the fiscal year, June 30, 1896, there were 1,640 lockages, passing through 2,938 vessels, with an average time of twenty minutes to a lockage. The registered tonnage of vessels passing the canal for the year was 2,398,715 tons.

During 1895 an electric light plant was put in, which supplies 33 arc lamps of 2,000-candle-power each, spread along both sides of the canal.

Following is a statement of the amount of money spent on this canal project from 1872 down to the close of the fiscal year, 1896: In 1872, \$949; 1888, \$8,145; 1889, \$34,018; 1890, \$176,568; 1891, \$325,336; 1892, \$341,474; 1893, \$589,801; 1894, \$1,316,529; 1895, \$466,151; 1896, \$189,986. With the exception of the amount spent in 1872, the above sums were expended on the construction of the canal. The entire amount of money expended on this canal up to June 30, 1896, was \$3,471,118, of which sum there was spent for construction the sum of \$3,448,011.

#### OTHER CANALS, ETC.

##### SHIP CANAL.

The improvement of the waters connecting the Great Lakes is the most important part of the work undertaken by the Government of the United States in connection with the aid it has extended to navigation and commerce thereon; for, as a chain is no stronger than its weakest link, so the navigable depth of the Great Lakes is no greater than that of their shallowest part. The object in view in the work being done

is to secure a ship channel through rivers and straits connecting the lakes with each other between Chicago, Duluth and Buffalo. Before improvements commenced under the project for this work the available depth of water for navigation in the waters connecting the Great Lakes was about 16 feet. An available depth of 20 feet having been provided for at St. Mary's Falls canal, Hay Lake channel and at Lime Kiln Crossing in the Detroit river by previous Acts of Congress, the remaining shallows in the connecting waters of the lakes were grouped into one project, with the exception of Detroit river between the City of Detroit and Lake Erie.

The Act of July 13, 1892, provided for a ship channel having a navigable depth of 20 feet in the shallows of the connecting waters of the Great Lakes, between the three great cities of Chicago, Buffalo and Duluth. The estimated cost of this work was \$3,340,000, and this amount was appropriated from 1892 to 1897, the last appropriation, that of June, 1897, being for \$1,091,000.

The work was divided into eight sections according to the locality, as follows: *Section 1.*—A channel 21 feet deep and 300 feet wide at Round Island shoals, St. Mary's river. *Section 2.*—A channel 21 feet deep and 300 feet wide in Little Mud lake, St. Mary's river, between the lower end of Sugar island and the lower end of the "Dark Hole." *Section 3.*—A channel 21 feet deep and 300 feet wide through a reef in St. Mary's river, abreast of Sailors' Encampment island. *Section 4.*—A channel 21 feet deep and 300 feet wide through a shoal in Mud lake, St. Mary's river, a mile and a half below Sailors' Encampment island. *Section 5.*—A channel 21 feet deep and 2,400 feet wide at the foot of Lake Huron. *Section 6.*—A channel 20 feet deep from deep water in St. Clair river through St. Clair Flats canal to deep water in Lake St. Clair, with a width above St. Clair Flats canal not greater than 650 feet; thence gradually narrowing to the canal; thence for the full width of the canal for its entire length; thence gradually widening to a width of 800 feet at deep water in Lake

St. Clair. *Section 7.*—A channel 20 feet deep and 800 feet wide through Grossepoint flats, Lake St. Clair. *Section 8.*—A channel 21 feet deep and 800 feet wide through the bar at the mouth of the Detroit river.

To obtain a navigable depth of 20 feet a depth of 21 feet is required where the excavation is through solid rock or through shoals infested with boulders, and a depth of 20 feet where the cut is through soft material.

Contracts were entered into December 31, 1892, for the eight sections. The time originally set for the completion, November 30, 1895, was extended one working season by the terms of the contracts themselves, owing to the exhaustion of available funds in October, 1895. All the contractors, however, preferred to continue the work, notwithstanding no payment could be made until further appropriations were made.

On June 30, 1895, Sections 1, 4 and 6 were practically completed, and Section 5 was dredged to about 20 feet over a width of 1,800 feet, and was used by vessels during 1895. During the year 1896 Sections 2, 3, 5 and 8 were practically completed, and the lower 20,000 feet of Section 7 completed and thrown open to navigation.

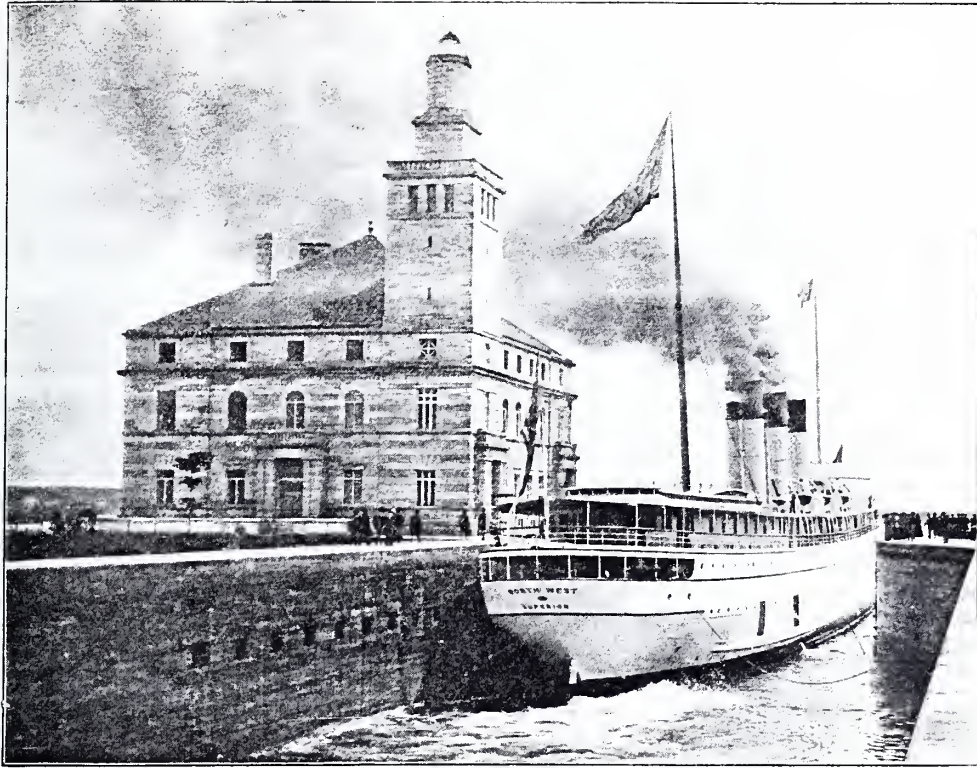
According to the report of Lieut.-Colonel Lydecker, engineer in charge of the work, while it is difficult to estimate with accuracy the effects upon commerce of these improvements, yet to them was due the increase of traffic through St. Mary's and Detroit rivers, which in the former case amounted to 14 per cent., or 1,886,720 tons, and in the latter case to 7 per cent., or 1,582,800 tons.

The amount expended on this work up to June 30, 1897, was \$2,507,121.

#### HAY LAKE CHANNEL.

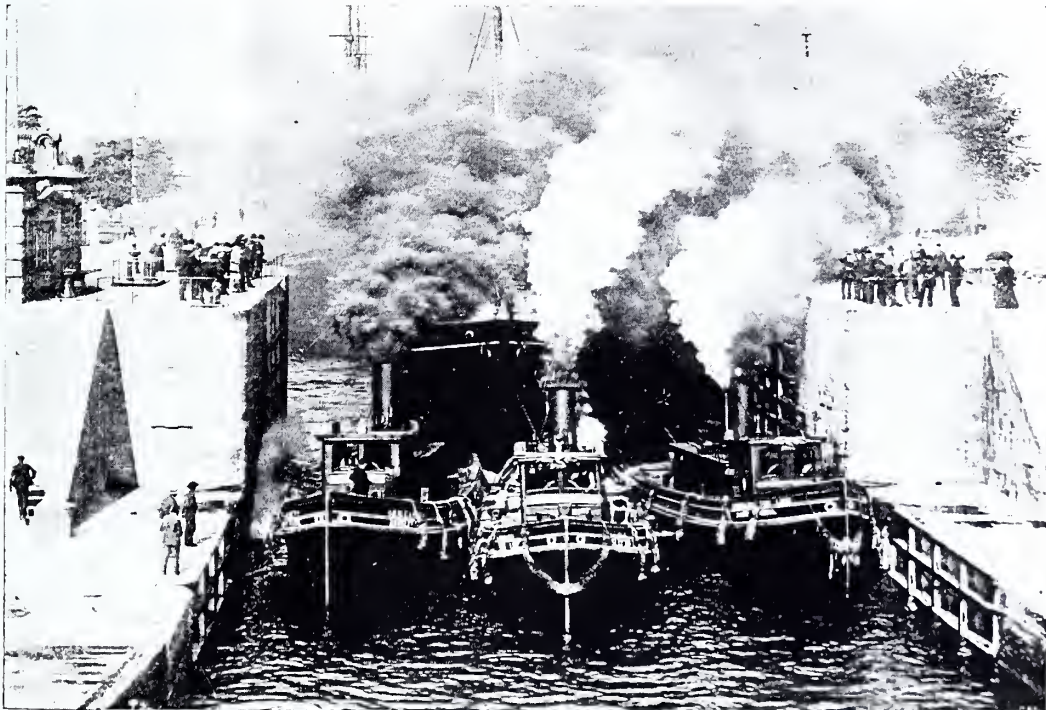
Before improvements were commenced here the channel through Hay lake was restricted in depth at Sugar Island rapids and at Middle Neebish to an available draft of about 6 feet, and the course was very irregular and dangerous. In addition to these obstructions, there were other shoals in Hay lake requiring removal to make the





NEW ADMINISTRATION BUILDING.

For the use of the officials of the U. S. canal and locks at Sault Ste. Marie, Michigan.



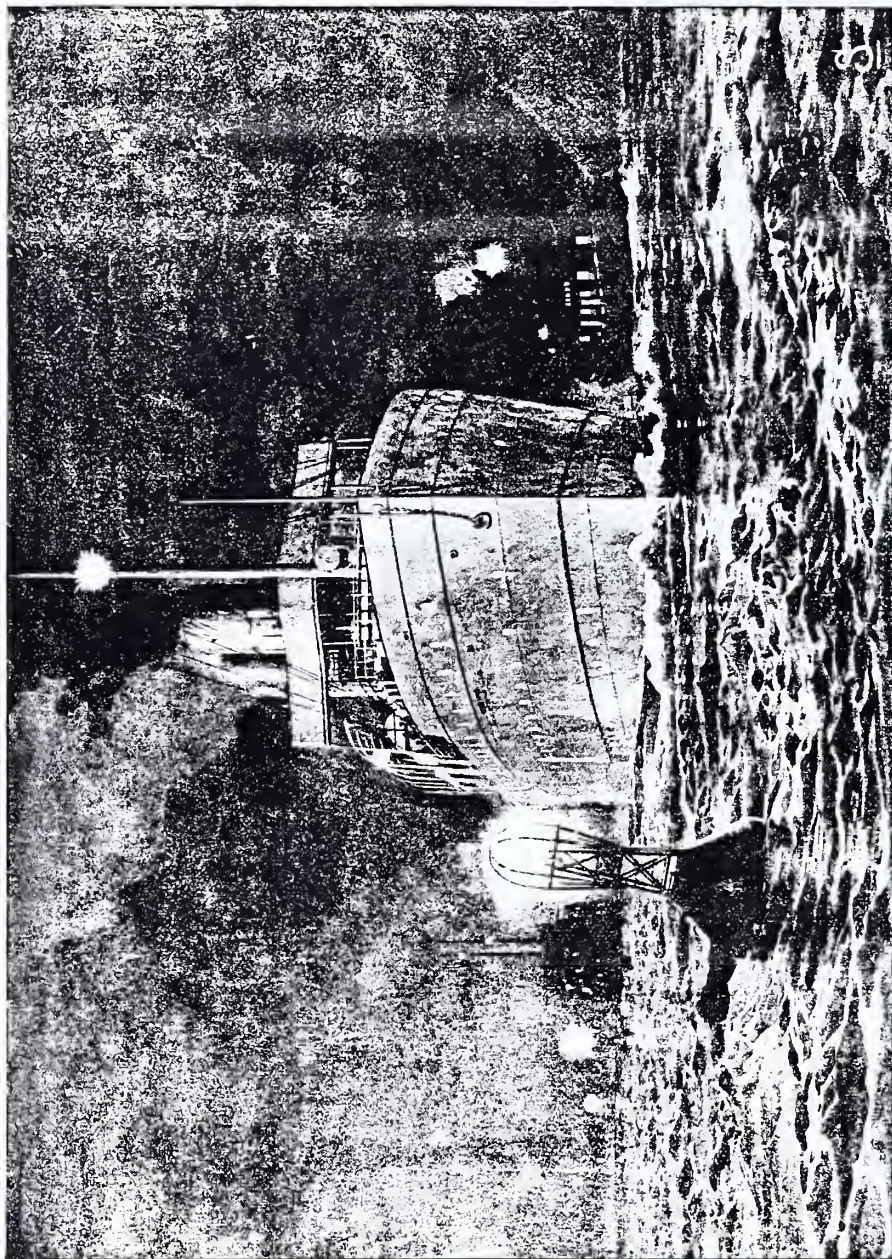
SCENE AT THE AMERICAN CANAL.

Three tugs raising the water in the lock, by the working of their wheels, to lift a barge too deeply loaded









NIGHT SCENE AT BALLARD'S REEF, DETROIT RIVER.

A narrow channel of about  $17\frac{1}{2}$  feet depth at this point in the Detroit river, dug through solid rock and boulders in most parts, is lighted by three gas buoys. Over 30,000,573 tons of cargo was carried by this point in 1897.



channel available for any considerable increase in draft.

The original project of improvement of 1882 provided for a channel 300 feet wide and to a depth of 17 feet, leaving the then navigable channel in St. Mary's river at Sugar Island rapids (about  $2\frac{1}{2}$  miles below the canal), through these rapids into Hay lake, and then by the way of Middle Neebish, rejoining the navigable channel at the foot of Sugar island; thus saving a distance of 11 miles, and obtaining a route which can be so marked by lights as to be navigable at night, a condition impracticable by the old channel, except by the use of a great number of lights. Afterward the project was so modified as to require a channel from 20 to 21 feet deep.

The estimated cost of the improvement as so modified was \$2,659,115. On June 30, 1895, the entire channel had been dredged to a width of 300 feet, and to a depth of 20 and 21 feet, and the entire commerce of St. Mary's river with some unimportant exceptions was using this channel, which was practically opened for traffic June 7, 1894.

The amount of commerce benefited by this improvement is practically all that passing through the St. Mary's river, as only a few of the small vessels still use the old Lake George channel. The two important points connected with this improvement are the saving of 11 miles in distance, and the rendering of these waters navigable at night. They are considered of inestimable value to commerce.

The appropriations made for this improvement to June 30, 1898, were \$2,165,000. Expenditures to that date were \$2,037,440.

#### ST. CLAIR FLATS CANAL.

This canal was made necessary from the fact that originally the St. Clair river emptied into Lake St. Clair through seven principal mouths or passes, the channel used by vessels, previous to the construction of the present canal, being known as the North channel of the South pass. This was improved in 1855-1858 to a depth of 11 feet. Before any improvement was

made there was a depth of about 6 feet over the bar at the mouth of this pass. The present St. Clair Flats canal was projected in 1866 with the view of obtaining a straight channel 13 feet deep and 300 feet wide across the flats east of the mouth of the old channel. The work as thus designed was completed in 1871. In carrying on the work it was considered sufficient to obtain a depth of 18 feet and to postpone obtaining a depth of 20 feet until the general project for a continuous depth of 20 feet along the entire length of the route should be in a more advanced stage. It was estimated that the 18-foot channel would cost \$365,000, and that a 20-foot channel would cost \$513,559. Total appropriations are \$764,810, and the expenditures to June 30, 1898, \$761,751.

At the present time there is a channel 20 feet deep from deep water in St. Clair river through the canal to deep water in Lake St. Clair. The commerce benefited by this improvement is the same as that passing through the Detroit river, which, in 1895, amounted to about 25,850,000 tons, and had an estimated value of \$275,000,000. The amount expended on the improvement up to June 30, 1896, was about one-third of one per cent of the commerce for a single season.

#### DETROIT RIVER.

Before work was commenced on the improvement of this river the channel at Limekiln Crossing could not be depended on for more than 13 feet in depth of water, the depth being much affected by the direction of the wind. The original project of 1874 provided for a curved channel 300 feet wide and 20 feet deep through the Limekiln Crossing; but in 1883 this project was modified to secure a channel of a minimum width of 300 feet; in 1886 the project was again modified so as to secure a channel 400 feet wide by removing an additional 100 feet from the United States side, and in 1888 this project was modified to secure a width of 440 feet by removing 40 feet more from the west, or United States side. It was estimated that this channel, 440 feet wide and 20 feet deep, would cost \$1,374,500.

The present project, adopted in 1892, contemplates the removal of such shoals in Detroit river, between the city of Detroit and Lake Erie, as obstruct navigation. The approved estimate under which the work is carried on provides for a channel 800 feet wide and 20 feet deep from the head of Ballard's reef to the head of Limekiln Crossing, at an estimated cost of \$180,000.

The first appropriation for this improvement was made in 1874. The total amount appropriated is \$793,000, and expenditures have been the same amount.

#### CANALS OF THE ST. LAWRENCE RIVER.

The canals of the St. Lawrence river, while not strictly a part of the navigation of the Great Lakes, are yet so intimately connected therewith that a brief reference is made. In descending the St. Lawrence river from Lake Ontario, the first canal encountered is the *Galops canal*, on the north side of the St. Lawrence river. It is divided into three divisions, called the Galops, the Junction and the Point Iroquois divisions. The Galops division was opened for traffic in 1846, and was the original Galops canal. The new Galops locks are the most westerly on the St. Lawrence river. This division extends upward from the village of Cardinal about two miles to the head of the Galops rapids, which commences about seven miles east of Prescott.

*Point Iroquois Canal* was opened for traffic in 1847, commences at the village of Iroquois and extends to Presque Isle, a distance of three miles, overcoming the Iroquois rapid, and other stretches of swift water above the point. The lockage is five and one-half feet.

*The Junction Division* connects the other two divisions, commencing at Presque Isle, and extends to Cardinal, about two and one-half miles. It was opened for traffic in 1856. It is simply an embankment, and the fall in this portion of the works is one and six-tenths feet.

Next in descending the St. Lawrence river is the *Rapide Plat Canal*, which extends upward from Morrisburg, and is the government point on the entire system of canals on this river. This canal was opened

for traffic in 1847, and it is about three and three-quarter miles in length.

*Farran's Point Canal* overcomes a short, swift rapid above the village of Farran's Point, about five miles west of Dickinson's Landing, at the head of the Cornwall canal. Farran's Point canal is about three-fourths of a mile in length.

*Cornwall Canal* surmounts the Long Sault rapids, has a total lockage of 48 feet, and was opened for traffic in 1843. It extends westward from Cornwall to Dickinson's Landing, a distance of  $11\frac{1}{2}$  miles. It is on the north side of the St. Lawrence river.

*Soulanges Canal* is also on the north side of the river St. Lawrence. It is a most important work, the construction of which was commenced in 1892, and is still in progress. It extends from Lake St. Francis down to Lake St. Louis. Up to June 30, 1896, the amount of money expended in the construction of this canal was \$1,950,596.

*Beauharnois Canal* is on the south side of the river St. Lawrence, directly opposite the Soulanges canal. St. Anne's lock is at the west end of Montreal island.

*Lachine Canal* is on Montreal island, connecting Lachine with Montreal. Up to June 30, 1896, there had been spent on this canal for all purposes the sum of \$12,207,949. During the fiscal year ending June 30, 1896, the lowest water in this canal occurred in November, 1895, when, in the Old Lock, at the upper sill it was eight feet one inch. During the same year the highest water occurred in April, 1896, in New Lock, No. 1, on the lower sill, 39 feet 8 inches.

The largest locks on this system of canals are 270 x 45, and the smallest 200 x 45, the depth of water varying from nine feet to 14 feet. When the present work of enlargement is completed, the canals here will be of much greater service to lake and ocean navigation, and their use will be correspondingly increased.

*Rideau Canal* connects the river Ottawa, at the city of Ottawa, with the eastern end of Lake Ontario, at Kingston. The total length of the canal is  $126\frac{1}{2}$  miles. The

number of locks ascending is 35, those descending being 14, and the total lockage is  $446\frac{1}{2}$  feet— $282\frac{1}{2}$  feet rise and 164 feet fall. The dimensions of the locks are 134 feet in length, and 33 feet in width, the depth of the water on the sills being 5 feet, the navigable depth through the several reaches being  $4\frac{1}{2}$  feet. The Imperial Government spent on this canal \$3,911,701.47, and the entire amount expended by the government prior to June 30, 1895, was \$4,084,156.87 for construction purposes; for renewals, \$245,478.84; on staff, \$776,509.36, and for repairs, \$506,113.62. Thus the entire amount expended on this canal up to the end of the fiscal year, 1895, was \$5,612,258.

*Murray Canal* extends through the isthmus of Murray, and connects the waters of Lake Ontario with those of the Bay of Quinte, thus enabling vessels to avoid the open lake navigation. The dimensions of the canal are as follows: Length between the pier heads, 5 1-6 miles; breadth at bottom, 80 feet; depth below lowest known lake level, 11 feet. The works comprise a cut through the isthmus  $4\frac{1}{4}$  miles long, and improvements in the way of dredging and other work to the entrance channels at either end to a total distance of  $9\frac{1}{2}$  miles. There are four swing bridges across the canal. Near its western terminus is the village of Brighton, in the harbor of Presqu' Isle, from which point to Port Dalhousie the distance is 120 miles. On the Murray canal the government spent in capital, or in the construction proper of the works, \$1,247,470.

The present Government of Canada is engaged in improving the canal system, connecting Lake Ontario and the lower St. Lawrence, so as to provide for a minimum depth of 14 feet. It hopes to accomplish this work within two years, and thereby increase the navigation of this route to the seaboard.

#### THE CANAL SYSTEM OF OHIO.

In November, 1817, the year in which the Erie canal was begun, De Witt Clinton, president of the board of canal commissioners of the State of New York, addressed a letter to the governor of Ohio, soliciting

such aid as the State of Ohio could give toward the construction of the Erie canal. This letter, accompanied by a special message, was transmitted by the governor of Ohio to the Legislature, and was considered by a joint committee of the two houses. This committee submitted a report and a resolution setting forth the advantages to Ohio of the proposed Erie canal, and offering such aid as the State could give.

This report does not appear to have been further considered: but it led to the further consideration of the question which was of much more immediate interest to the people of Ohio, viz.: that of extending the proposed line of navigation from Lake Erie to the Ohio river, by which means a continuous line of navigation would be obtained from the Hudson river to the Mississippi river.

The canal question became a prominent one in every Legislature, and in 1822 a board of canal commissioners was created. This was the official beginning of the Canal System of Ohio.

From 1822 to 1825 several canal routes across the State were surveyed. An Act in 1825 authorized the construction of a canal from Lake Erie to the Ohio river, along the Muskingum-Scioto route (the *Ohio canal*), and another canal from Cincinnati to Dayton in the Miami valley. Work was begun on both canals—on the Ohio canal, July 4, 1825, and on the *Miami canal* on the 21st of the same month. The construction was carried forward with energy during the next eight years, by which time the original system was practically completed. The continuation of the Miami canal from Dayton to Lake Erie was resumed under Acts of December 31, 1831, and March 3, 1834. It was carried on largely by the aid of congressional grants of land to the State of Ohio, and the canal was finally completed to Lake Erie in 1845. This canal was known successively as the Miami canal, Miami Extension canal, the Wabash & Erie canal and the Miami & Erie.

The Ohio canal route extended from Cleveland, Ohio, at the mouth of the Cuyahoga river in Lake Erie, to Marietta, on the Ohio river at the mouth of the Musk-



ingum river. The total length of the route is 246 miles, and the total lockage is 793 feet. This route is now in part occupied by a section of the Ohio canal from Cleveland to Dresden, a distance of 154 miles, and from the head of the Zanesville pool to Marietta by the slackwater improvement of the Muskingum river, a distance of 83 miles.

The Ohio canal is a State work, but the Muskingum river improvement, which was originally a State work, is now the property of the United States, and is maintained in good condition and operated free of tolls. The Ohio canal is 40 feet wide at the surface of the water, 26 feet wide at the bottom, 4 feet deep, and has locks that admit boats carrying 90 tons. The Muskingum improvement is 6 feet deep, and has locks 160 feet long and 36 feet wide, admitting boats carrying 500 tons of freight.

The western route, which is occupied by the Miami & Erie canal, extends from Cincinnati to Toledo, on Lake Erie. This entire route is 249 miles long.

The central route is that extending from Sandusky bay, on Lake Erie, to Portsmouth, on the Ohio river. From Columbus to Sandusky bay, with the exception of 17 miles in Sandusky river, the central route is not now navigable.

In the early day, when Ohio was sparsely settled, and when the State was comparatively poor, she could not afford to build a canal on each of the three routes above described, and still not one of the routes could satisfy all interests. The result was that when it became a question as to the construction of a public highway by water the local requirements of the population were taken into consideration and the early efforts of the State were directed to satisfying their demands. It was, therefore, decided that as the State was unable to construct canals on all the routes named, she would compromise by constructing a canal entering the lakes at as near as might be the northeastern corner of the State, at Cleveland, and terminating it as near as might be at the southwest corner of the State at the Ohio river.

It was found practicable to carry a canal across the divide between the Scioto and Miami rivers; but the engineers employed

by the State concluded that one with sufficient water supply could be carried over the divide between the Muskingum and the Scioto valleys, via the Licking summit, and it was, therefore, decided to build the Ohio canal from Cleveland to the Tuscarawas and Muskingum valley, thence from the Walhonding across the Licking divide to the Scioto at Lockburn, and thence to the Ohio river at Portsmouth. A canal from Cincinnati to Dayton was decided on at the same time in order to satisfy public clamor.

Later the western route was completed to Toledo, and the improvement of the Muskingum river was also undertaken and completed from Marietta to Dresden. Meanwhile the competition of railroads, which were introduced into Ohio in 1839, began to tell on the receipts of the canals. Popular opinion on the subject of public control of waterways changed, and in 1861 the State canals were leased to private parties for seventeen years, with disastrous results so far as the maintenance and repair of the mechanical structures were concerned. The canals were returned to the State at the expiration of the lease in a deplorable condition, and since then have been repaired and maintained at an annual expense of from \$5,000 to \$40,000.

But notwithstanding all their misfortunes the canals of Ohio have conferred great benefit upon the State. They reach nearly every city and town of importance, and their influence in building up these cities and towns, as well as the interior settlements and agriculture, can not be estimated nor conceived of by the receipts, cost and expenditures.

As actually constructed the Ohio canal extended from Cleveland, Ohio, across the Cuyahoga-Tuscarawas divide to the Muskingum valley at Walhonding; thence across the Licking divide to the Scioto river at Lockburn, and thence down the Scioto valley to Portsmouth. This canal is 308 miles long, with two summits, and lockage amounting to 1,206 feet. It cost the State \$7,904,971. The receipts from tolls and privileges have been \$10,300,215, and it has cost to operate and maintain it \$6,460,451.

The Miami and Erie canal cost the State for original construction \$8,062,680. It has produced in earnings \$6,682,356, and its operating and maintaining expenses have been \$4,938,368. The present value of these canals is estimated at \$15,000,000. The State of Ohio, therefore, in them has on hand a property valued at nearly its original cost, which has repaid nearly one-third of the expense of maintenance and operation.

The Ohio canal made Cleveland what it is. This will be apparent when the effect of locating the canal through the Grand river valley is contemplated, instead of through the Cuyahoga valley. There would have been no city of Cleveland to-day, although there might have been a great city at the mouth of the Grand river.

#### PORTAGE LAKE SHIP CANAL.

This waterway, from the western shore of Keweenaw point to Keweenaw bay, on the eastern side of Keweenaw point, is a most important one, and its improvement was commenced many years ago by private enterprise. Better facilities for transportation were made necessary first by the copper interests centering in Portage lake as early as 1859. At that time there was at the mouth of Portage river a depth of about 4 feet, ranging from 3 feet to 5, over the bar, and consequently vessels arriving there anchored in the offing, transferred their freight by means of lighters over the bar, the lighters transferring it to scows upon which it was towed to the mines, a distance of 11 miles at a cost of about \$4 per ton.

These numerous annoyances, delays and expenses led those interested to attempt a remedy by dredging the river and bar and constructing a breakwater. The parties interested were the Quincy, Pewabic, Franklin, Mesnard, Pontiac, St. Mary's, Albany and Boston, and Isle Royale mining companies, and Messrs. Sheldon and Douglas, two merchants and land owners. John H. Forster was employed as engineer, and a contract was made with W. W. Williams for securing a channel 10 feet deep and 80

feet wide at the bottom. Instead of using the original river mouth Mr. Forster selected a point further to the east where he laid out a breakwater and a canal leading to it through a tamarack swamp, the length of the cut being 1,200 feet. The object of the breakwater was to prevent the sand moved by northeast storms from filling up the mouth of the canal. The one pier that was considered necessary was built during the winter of 1859-60, and in June, 1860, the first lake steamer was piloted through the canal and river up to the docks at Hancock.

In the following year the Michigan legislature passed an Act to provide for the formation of a company to construct and to improve canals and harbors, and under this law the Portage Lake & River Improvement Company was incorporated, composed of the persons who began the improvement. Considerable sums were expended annually in maintaining and deepening the channel and straightening the river, and in placing buoys and beacons.

Still greater facilities were called for, and in 1874 extensive additional dredging was begun, the object being to obtain a channel 13 feet deep. In 1875 the old pier was widened and a new superstructure added. The income from tolls which were charged upon all vessels drawing more than 5 feet of water, the rates being fixed by Houghton county, steadily increased, enabling the company to provide for the expenses of the works and also to realize a handsome profit.

About 1880 pressure was brought to bear upon the company to reduce the tolls, and in 1885 they were reduced nearly fifty per cent. below what they had been from 1863. The opening of Portage lake enabled vessels to go within about two miles of Lake Superior on the west side of Keweenaw point, and it soon became obvious that it would be greatly to the advantage of commerce if the waterways were made continuous from the east to the west side of Keweenaw point. To construct the necessary canal, 2.1 miles long, involved an expense which the persons immediately interested could not sustain, and besides this it was perfectly clear that the benefit of cutting a

canal through to Lake Superior would be national rather than local.

*The Portage Lake and Lake Superior Ship Canal Company* was organized under the law of Michigan in 1864, and by a joint resolution of the State of Michigan, Congress was asked to aid the enterprise by a grant of land. Minnesota passed a similar resolution February 24, 1865, and Congress responded by granting to the State of Michigan 200,000 acres of land by an Act approved March 3, 1865. But as the plan of construction adopted involved an expense larger than was at first contemplated, Congress was again appealed to to further aid the enterprise, by the Governor and Legislature of Michigan, the Legislatures of Wisconsin and New York, and by several of the large cities, and again Congress responded by granting an additional 200,000 acres of land by an Act approved July 3, 1866.

The canal was designed to be 13 feet deep and 100 feet wide, and to be provided with a breakwater at its Lake Superior end. Several years were spent in preliminary work, the original surveys being made by I. N. Green. In 1868 a small amount of excavation was made, and in the spring of 1869 work was resumed with great activity, and pushed through during that year and 1870. In 1871 the work was embarrassed for want of funds, and in this year the company failed, its name in the meantime having been changed to the Lake Superior Ship Canal, Railroad & Iron Co. But the work went on, and on October 18, 1873, Mr. Forster, who on June 1, 1869, had succeeded Mr. Greene as State engineer, certified that the works were completed according to law.

In May, 1877, after protracted litigation the works were sold under decree of foreclosure, being purchased by Mann & Wilson for the bondholders and creditors of the old company, who organized the Lake Superior Ship Canal, Railroad & Iron Co. The consideration mentioned in the deed to Mann & Wilson was \$800,000. They sold the works to the new company for \$100, subject to prior incumbrances amount-

ing to \$1,636,385, and accrued interest at 10 per cent.

The ship canal, as stated above, is 2.1 miles long. It was built under the grants made by Congress. At first it was 14 feet deep throughout its whole extent, and its least width at the surface was 100 feet. It widened out at Lily Pond to 200 feet, and thence again maintained a width of 100 feet nearly to Portage Lake. Throughout the whole extent of the canal its revetments consist of a front row of piles generally about six feet apart from center to center, capped a few inches above the water surface to support a single row of sheet piling; a row of anchor piles is driven about seven feet back and connected with the front row by timber braces.

The entrance of the canal at Lake Superior was formed by two practically parallel piers of substantial crib work. These two piers are 1,000 and 850 feet long. They are 100 feet apart at the shore line and widen to 240 feet at the lake entrance. The entire route from Lake Superior to Keweenaw bay is somewhat more than 24 miles long. Of this distance 16 miles traverse Portage lake, a long and narrow sheet of water with a depth varying from 30 to 40 feet, and with a width rarely less than 1,000 feet. The banks are usually high, and thus afford perfect protection against gales. It is a most excellent harbor of refuge when vessels are once inside.

Portage lake is connected with Keweenaw bay by a river about five miles in length, and through it runs a channel affording over 100 feet in width with a minimum depth of 14 feet. From the harbor entrance at Keweenaw bay a single pier was built.

*Purchased by the Government.*—The River-and-Harbor Act of September 19, 1890, provided for the purchase by the United States Government "of the two canals known as the Portage Lake & River Improvement canal from Keweenaw bay to Portage lake, and the Lake Superior Ship Canal, Railway and Improvement Company's canal from Portage lake to Lake Superior, being the water communication across Keweenaw point, Lake Superior, from Keweenaw bay to Lake Superior in



the State of Michigan by way of Portage lake and river, and the artificial cut made by said companies to render them available to commerce and navigation, together with the works of improvement on Portage lake, the harbor works upon Lake Superior and Keweenaw bay, with all the lands and franchises connected therewith, free from all incumbrances, \$350,000."

From Sault Ste. Marie to Duluth a direct distance of about 375 miles, the southern shore of Lake Superior conforms in general to the 46° 30' parallel of north latitude; but midway between these two cities the rocky promontory of Keweenaw point projects northeast into the lake, compelling vessels engaged in the coasting trade to make a wide detour. The shores of this promontory, sometimes called the Cape Horn of Lake Superior, are bold with outlying reefs dangerous to navigation, and with no good harbor to afford refuge in storms. The great value to commerce of the waterway across Keweenaw point at its western end, is therefore readily apparent. About two-thirds of the length of this waterway was made many centuries ago, no one knows when, by nature in one of her convulsions, and vessels of the largest draft readily float in its waters. No locks were required throughout its entire length.

At the time of the purchase by the United States there was a poor 13-foot navigation; the channel was narrow and crooked; it was poorly marked and lighted; the entrance piers were in bad condition; the revetments were rotten or entirely gone; and there was a heavy tax upon commerce in the form of tolls. Since then all of these difficulties have been removed.

The project upon which the Government of the United States commenced the improvement of this waterway adopted in 1886, was as follows; to obtain a depth of 16 feet throughout the entire channel from lake to bay with a width of at least 70 feet at bottom; to renew the canal revetments; to reconstruct the piers at the Lake Superior entrance, and to continue them to 30 feet depth of water in the lake; to extend the pier at the Keweenaw entrance to 20-foot depth of water in the bay, and at the proper

time in the future to increase the depth of the entire channel to 20 feet and its width to not less than 120 feet.

Appropriations from 1892 to 1898 were \$1,030,000.

The number of vessels passing through the Portage Lake Ship canal was 2,931 in 1897; net tonnage 1,025,375; total freight, 1,020,723 tons. The total valuation of freight in 1897 was \$34,044,269.

#### STURGEON BAY AND LAKE MICHIGAN SHIP CANAL.

This is a waterway cut through the neck of land which separates Green bay from Lake Michigan, the canal connecting Sturgeon bay with Lake Michigan. The neck of land thus cut through is about one and three-eighths of a mile wide, and has a maximum elevation of about 28 feet above the level of the lake. The canal was cut through by the Sturgeon Bay & Lake Michigan Canal Company, from 1872 to 1881, and is an open cut without locks or gates. It is 7,200 feet long, 100 feet wide at the surface of the water, about 65 feet wide at the bottom and 14 feet deep. Of the 14,400 feet of canal banks 8,437 feet were provided with pile revetments, and in continuation of the canal a channel was dredged into Sturgeon bay for a distance of 6,100 feet of about the same dimensions of the canal.

This canal is of great value to commerce, affording as it does a shortening of distance for many vessels over the natural outlet of Green bay into Lake Michigan of about fifty miles to the north, the avoidance of the dangers of the natural route, and makes Sturgeon bay available and accessible as a harbor of refuge for vessels on Lake Michigan. The main object in constructing this canal was to form a more direct water way from Menominee, Peshtigo and other ports in the southern part of Green bay to Milwaukee, Chicago and other ports in the southern part of Lake Michigan.

The United States Government, having purchased this canal, took possession of it April 25, 1893. The original project of improvement adopted in 1894, provided for

building 6,000 linear feet of revetment, being an extension of the original revetment to Sturgeon, offsetting 30 feet on each side, so as to make this portion of the canal 160 feet wide at the surface of the water; and to obtain a depth of 15 feet.

The first appropriation made July 13, 1892, was for \$81,833, and was for the purchase of the canal. There was appropriated in 1894, \$20,000, and in 1896, \$30,000.

During the closed season of navigation in Sturgeon bay and Green bay the canal was made the northern terminus of the Goodrich line of steamers, plying along the western shore of Lake Michigan, and large quantities of freight were landed at and taken from the Merchants' warehouse, which is situated near the lake end of the canal.

During the season of 1895 3,949 vessels passed through the canal. The total freight tonnage was 810,970. In 1896, 4,031 vessels, with a registered tonnage of 1,558,148, passed through; tons of freight 831,370. In 1897, 2,131 vessels passed up with 860,606 tons of freight; 2,283 vessels passed down with 87,999 tons of freight.

Nine regular transportation lines, with 44 vessels, use the canal. In addition a large number of steam barges, sail vessels and scows engaged in the general freighting business, use the canal continually, going both ways during the season of navigation, and a large local business is done by tugs in assisting sail vessels, scows, etc., through the canal.

#### IMPROVEMENT OF THE ILLINOIS RIVER.

This has been undertaken with a view of ultimately securing in connection with an enlargement of the Illinois & Michigan canal, of a deep waterway from the southern end of Lake Michigan to the Mississippi river, of sufficient capacity to accommodate large sized Mississippi river steamboats and for military and naval purposes.

The present project, adopted in 1880, contemplates the extension of the slack water improvement begun by the State of Illinois from the mouth of Copperas creek to the Mississippi river, a distance of 135 miles. The project includes the construc-

tion of two locks, 350 feet long, 75 feet wide, with a depth of seven feet of water over sills at low water of 1879, and dredging the channel where necessary to secure seven feet at low water in the pools thus created. The two locks have been completed and are in use. One of them is situated at Kampsville, 31 miles above the mouth of the Illinois river, and the other at La Grange, 79 miles above the mouth of the river.

In aid of the object aimed at the State of Illinois, aided by the United States Government, has constructed two locks of the dimensions above stated—one at Henry and the other at Copperas creek. In the construction of this work the United States had expended up to June 30, 1897, \$1,344,096. The State of Illinois had spent an additional amount on the two locks of \$747,747.

From the construction in 1889 of the La Grange lock the amount of business of the Illinois river up to June 30, 1896, increased over 200 per cent. The largest boat navigating the Illinois river was the Cherokee, 631 tons. The La Grange lock was opened for navigation October 21, 1889, and the Kampsville lock August 29, 1893. During the year ending June 30, 1896, the passages of steamboats and barges at La Grange lock numbered 504, with a tonnage of 129,297, and at Kampsville lock the number of steamboats and barges passing through was 592, with a tonnage of 165,686.

#### ILLINOIS AND MISSISSIPPI CANAL.

After much discussion, in which all the local engineers opposed it, this canal has been located on the Rock Island route, approved by the Secretary of War October 27, 1888, as directed by the Act of Congress of August 11, 1888. The object of the improvement is to furnish a navigable waterway from Lake Michigan to the Mississippi river, at the mouth of Rock river, in connection with the upper Illinois river, and the proposed enlarged waterway along the present line of the Illinois & Michigan canal. It proceeds from the Illinois river at its great bend one and three-fourths

miles above the town of Hennepin; thence via Bureau Creek valley and over the summit to Rock river; thence by slack water in Rock river and canal round the lower rapids of Rock river to the mouth of that river. It is to be at least 80 feet wide at the water line, 7 feet deep, and to have locks 170 feet long and 35 feet in width in the lock chambers.

The first work was begun in July, 1892, near the mouth of Rock river on the construction of a canal round the lower rapids of that river, and since that date was carried on up to the close of the fiscal year ending June 30, 1897. There was expended on this improvement \$1,203,887.

The canal was formally opened April 17, 1895, to navigation. Its traffic has been confined to passenger business for the most part, and to small craft.

#### CHICAGO DRAINAGE CHANNEL.

A history of the Great Lakes would be incomplete without mention of the Chicago drainage canal, one of the grandest feats of sanitary engineering in the world. Its purposes for navigation are secondary, and how important they may become, time only will demonstrate. The enterprise is an old one, and was born of absolute necessity. A fall of  $6\frac{1}{2}$  inches of rain, September 2, 1885, causing a tremendous flood from the Des Plaines river to sweep down the Chicago river into the lake, contaminating beyond all precedent the water supply of the city, gave impulse to the movement, which was followed by achievement. Bills for adequate drainage passed the State Legislature in 1886 and 1887. The sanitary district was organized and approved by popular vote November 5, of that year. The district is 18 miles long and from  $9\frac{1}{2}$  to 15 miles wide. The Chicago drainage board was soon after organized, and work was commenced in September, 1892. The total length of the Chicago drainage canal is 28.05 miles, extending from its connection with the south branch of the Chicago river at Bridgeport, Chicago, to Lockport.

The dimensions are: for 14.9 miles through the rock-cut, 160 feet wide at bottom, 162 feet wide at top; and in the

glacial drift for 13.15 miles, 202 feet wide at bottom, and 290 feet at the water-line when the channel is carrying 22 feet of water. The channel at the junction of the Chicago river is 24.45 feet below datum; at the Lockport end, 30.1 feet below datum.

There will be let in from Lake Michigan, it is expected, a constant volume of 300,000 cubic feet of water a minute, at a current not exceeding three miles an hour. The grand total of excavation involved in the construction of main channel and river diversion was 40,000,000 cubic yards. The estimated cost of all the elementary work under contract is about \$21,000,000. Of this, \$2,600,000 was spent in acquiring right of way, and \$18,700,000 in construction. The completion of the work, with extra right of way, unexpected litigations, etc., will bring the whole expenditure up to nearly \$31,000,000.

Reports have been made by government engineers as to the possible effect of the Chicago drainage canal upon the lakes. It is fairly well established that the canal would lower the upper lakes from three to nine inches within two years, and reduce the flow of water over Niagara fully five per cent. and ultimately possibly even ten per cent.

This lowering of the lakes, and hence curtailing of draught to all lake vessels, may reduce the carrying value nearly a million dollars per annum. On the other hand an engineer of some repute has asserted that by obstructing to a certain degree the flow of water above Niagara Falls (at but small expense) the depth of all waters above could be increased from one to two feet.

#### DEEP WATERWAY TO OCEAN-TIDE.

The Chicago drainage channel is the greatest project on the Great Lakes, now in course of completion. The greatest project, not yet undertaken, but actively canvassed by the nation, and by a multitude of business interests, is the deep waterway from lakes to sea. Much has been written about its advantages and its disadvantages, whether it should be constructed and at public expense, as a government work, or by private capital. Its route to the ocean has invited animated discussion, for the water-



way, if constructed, it is agreed, must exert a momentous influence upon commercial values and activities.

In pursuance of an Act of Congress, President Cleveland in 1895 appointed a commission, consisting of Lyman E. Cooley, of Chicago, James B. Angell, of Michigan, and J. E. Russell, of Massachusetts, to join with a similar Canadian commission, consisting of Oliver Howland, Thomas Keefer and Thomas Munro, in a preliminary inquiry respecting the project. It was pronounced feasible by both commissions. Taking a broad and far-reaching view of the matter it is recommended that a channel of not less than 28 feet navigable depth be constructed throughout. In their opinion the completion of the entire system as quickly as the work can be prosecuted with economy is fully justified. The route proposed contemplates the use of all the Great Lakes, between which and the sea there are mentioned several terminal routes which are feasible. The determination of one among the alternative routes from Lake Ontario to the Hudson river is made subject to information to be obtained from complete surveys and a full investigation of economic considerations.

In July, 1897, President McKinley appointed a second commission, consisting of Lyman E. Cooley, of Chicago, G. Y. Wisner, of Detroit, and Major James Raymond, of the United States Army, to investigate and report upon the several routes.

Subsequent to the appointment of the above commission, in 1895, Congress made another provision for the investigation of the same project. By its River-and-Harbor Act of 1896 the Secretary of War was authorized to ascertain the cost of a ship canal from the Great Lakes to the Hudson river, and the results of this investigation have just recently been made known in the report of Major Thomas W. Symons, of the United States corps of engineers. Major Symons' report is exhaustive, and adverse to the project.

As a result of his investigation Major Symons finds the most suitable route for a ship canal to be by way of the Great Lakes, Oswego, Oneida lake and the Mohawk and

Hudson rivers. The route by way of the St. Lawrence river and Lake Champlain to the Hudson, considered also by the commission, was by him reported impracticable, owing to the longer distance and the difficulty of providing for its defense in the event of war. He concluded that the present and prospective conditions of lake, intermediate channels and harbor limitations would not justify a depth of ship canal greater than twenty feet draft, and that the cost of carrying out an undertaking of this kind would reach approximately \$200,000,000. It is estimated that the cost of operation and maintenance of the same would amount to \$2,000,000 per year. The possible amount of tonnage tributary to a ship canal is put at 24,000,000 tons annually, 18,000,000 tons of which would be transported eastward and 6,000,000 westward.

It is estimated that improvements on the Erie canal of sufficient magnitude to permit the use of 1,500 ton barges can be made for \$50,000,000. For the highest economy in water transportation it is found that different types of vessels are required for ocean, lake and canal commerce, respectively. It is stated that ocean vessels could not, as a rule, engage profitably in business requiring passage through a ship canal of the kind under consideration, and that lake vessels are not fitted for use upon the ocean. If, therefore, either of these two classes of vessels were to engage in foreign commerce to and from the lakes, their unsuitability to the conditions pointed out would require the transfer of their cargoes at the seaboard. In consideration of these findings it is concluded that the construction of a ship canal is not advisable.

*Project to Connect Georgian Bay and Lake Ontario.*—For several years, beginning as early as 1854, citizens of Canada indulged in the hope of acquiring a sufficient appropriation from the British Government for the construction of a canal, between Georgian Bay and Lake Ontario, the terminus to be at or near Toronto.

The proposed canal would be about eighty miles long, penetrating from Nottawasaga bay, through the valley of the same, thence to the Humber river at To-

ronto. The proposed canal, however, aroused strong opposition, both on account of its great cost and on account of large railroad interests, which might have suffered from this new competition. At various times, since 1854, the same enterprise has been urged upon the Canadian and British Governments.

In fall of 1897 ex-Mayor McLeod Stewart, of Ottawa, visited London, England, to enlist British capital in a project to unite by a waterway the headwaters of the Ottawa river and Georgian Bay near Parry Sound, in which connection it may be stated a company was recently organized in England, with a capital of seventeen million dollars, to construct the proposed Ottawa and Georgian Bay canal, under certain provisions.

#### PITTSBURGH SHIP CANAL.

In 1894 the city of Pittsburgh was deeply interested in a project to connect by a ship canal the waters of Lake Erie and the Ohio river. At that time an important steel plant had just decided to remove from the Pittsburgh district to the shores of Lake

Erie, and the reason assigned for the change of location was that the Lake Erie ports constituted the district where iron and steel could be most cheaply produced. These economic conclusions were widely heralded, and occasioned some apprehension that Pittsburgh might lose her prestige as the chief iron center of America. Moreover, about that time, Alabama pig iron was selling freely at Pittsburgh at the expense of the home product. The outlook for the Smoky city was not unclouded, and a number of her public spirited business men advocated the construction of a ship canal which might bring lake ore to Pittsburgh at a low cost, and enable the city to maintain its ascendancy. Time passed, and no immediate and serious loss of trade followed. Pittsburgh regained her equanimity. Large furnaces were built, the largest in the world; the heaviest steel producer built a new railroad from Conneaut to Pittsburgh and reduced the transportation cost of ore. Various other economies were put into effect, and the city still holds an undisputed supremacy in iron production. This ship canal project is not wholly dead, but interest has waned.

## CHAPTER XX.

### HARBORS.

EARLY HARBOR APPROPRIATIONS—THE GREAT LAKES NOT FAVORED—AN ENGLISH OPINION IN 1833—DANGERS TO NAVIGATION FROM LACK OF HARBORS—EARLY IMPROVEMENTS ON LAKE ERIE—ANNUAL APPROPRIATIONS FROM 1824 TO 1845—LATER GOVERNMENT SUPPORT MORE GENEROUS—LAKE ONTARIO HARBORS—LAKE ERIE HARBORS—LAKE ST. CLAIR HARBORS AND CONNECTING RIVERS—LAKE HURON HARBORS—LAKE MICHIGAN HARBORS—LAKE SUPERIOR HARBORS—UNITED STATES ENGINEERS—HYDROGRAPHIC DEPARTMENT.

Seas do not divide; they connect.—*Emperor William II of Germany.*

A great ship must have deep water.—*Marim.*

Every increase in the depth of our Great Lakes channels enlarges the mineral output, cheapens transportation, lowers prices, and benefits the whole people.—*Capt. Joseph Sellicood.*

**A**N appropriation for the support and maintenance of harbors was made in 1791 by the first Congress of the United States under the present constitution, and no subsequent Congress has failed to make similar appropriations. Commerce has always been considered a subject of vital

interest to the nation. But prior to 1824 the harbors on the lakes had received no attention direct from the government. Up to that time but little benefit was received from the natural advantages presented by the Great Lakes. The mouths of the rivers were usually so obstructed by sand that they prevented the entrance of vessels except in the early part of the season for a short period. On this account, wheat, flour and other produce did not pay for shipping to the Atlantic cities. After much effort, a law was passed in 1826 making appropriations and providing for the examination, survey and improvement of the harbors on the northern lakes.

But for many years the improvements made were small and inadequate. There seemed little opposition to the maintenance of seacoast harbors, but the expenditure of large sums of money for the development of a new inland country did not appeal so strongly to the representatives of seacoast States, where lay the balance of legislative power, and valiant service had to be rendered by the Western congressmen to secure even small appropriations for lake harbors. Commerce on the Great Lakes, nevertheless, expanded to a wonderful degree without corresponding aid from the government in providing adequate harbors.

An English author of considerable repute, Charles Joseph Latrobe, wrote as follows, in 1833, of the southern shores of Lake Michigan: "The total absence of harbors round this southern extremity of the lake has caused the wreck of many a vessel, as the action of the storm from the northward upon such a wide expanse of fresh water is tremendous; and from the great height and violence of the surf, which then thunders in upon the base of the sand hills, and the utter solitude of this coast, lives are seldom if ever saved." The same statement applied, with little modification, to all the lakes.

In his annual report for 1837, Henry Smith, general superintendent of public works for Lake Erie, said: "Until the commencement of the system of improvement of the lake harbors by the Government of the United States, the immense

extent of country occupying the south shore of Lake Erie, or dependent on it for commercial facilities, was a wilderness. The navigation of the lake was attended with the utmost delay, difficulty and danger. The mouths of the several streams emptying themselves into the lake were uniformly obstructed by sand and vegetable matter, creating stagnant bodies of water, which overflowed the lowlands for miles, generating an atmosphere which rendered the country nearly uninhabitable from disease, at the same time that the streams themselves were entirely inaccessible as a refuge for vessels, and in all respects an evil rather than a benefit to the surrounding country. It is almost unnecessary to say that the judicious improvements made under the Acts of Congress have entirely changed all this, and many millions of acres of land of the most fertile description, embracing the western portion of the State of New York, the northern part of Pennsylvania, Ohio, Indiana and Illinois and the whole of Michigan, owe their present settlement and improvement in a very great degree to this cause. The mouths of the Huron, Black river, Cuyahoga, Grand river, Ashtabula and Conneaut (across the sand), and of the Raisin, in Michigan, were opened and kept open by piers and other improvements. Beacon lighthouses have been erected, and these streams, as well as other works at the east end of the lake, now afford secure harbors, accessible at all times to vessels navigating the lakes. These works, originally but experiments, were built of perishable material. Unless this work is made permanent, the elements will speedily render useless all that has been found of such vast benefit to the commerce of the West. This has been done at Buffalo heretofore, and is fairly commenced at Cleveland. By using the old work as a foundation, permanent works may be erected at comparatively small cost, sufficient to delay the action of the elements for ages; but I beg leave to urge again that the commencement should not be delayed a moment."

Lake Erie ports were more fortunate than those located on the upper lakes. Writing as late as 1846, Thomas L. Barton



said: "With the exception of Lake Erie, which is partially furnished with harbors, constructed by individual enterprise and appropriations by Congress, the upper lakes are almost entirely destitute of these indispensable requisites for the safety of commercial interests engaged in that great and growing trade. With here and there a lighthouse above Detroit, everything remains almost in the same state it was found by the commercial pioneers when they first broke their way through Lake Michigan."

He continues: "Within ten years many thriving cities and towns, besides Chicago, have sprung into existence on Lake Michigan. Amongst the most prominent may be mentioned Navarino, Sheboygan, Milwaukee, Racine, Southport and Little Fort, containing an active and busy population from 1,000 to over 8,000 each, and annually increasing. On the eastern side the St. Joseph's and Grand river towns, and others, are pushing forward with great zeal, and adding largely to their numbers yearly."

The scantiness of appropriations for lake harbors from 1839 to 1847 and the veto of the river and harbor bill by President Van Buren led to the great convention at Chicago, in 1847, which is made the subject of another chapter. Congressional appropriations for lake harbors up to that time were as follows: 1824, \$20,000; 1825, \$1,000; 1826, \$49,620; 1827, \$52,326; 1828, \$83,982; 1829, \$107,531; 1830, \$80,130; 1831, \$130,438; 1832, \$121,300; 1833, \$107,400; 1834, \$221,978; 1836, \$115,194; 1837, \$300,415; 1838, \$680,673; 1843, \$80,000; 1844, \$375,000; 1845, \$15,000—Total, \$2,861,964.

Most of the lake towns are built upon rivers which empty into the lakes, and these rivers are usually obstructed at their mouths by bars of sand and clay. The formation of these bars is due largely to the fact that the currents of the rivers are constantly bringing down with them an amount of soil, which is deposited at the point where the current meets the still waters of the lake. Another cause, as we are told by Col. Graham, in his Report for 1855, is the following:

"Although the great depth of Lake

Michigan prevents the surface from freezing, yet the ice accumulates in large bodies in the shallow water near the shores, and is driven by the wind into the mouths of the rivers. A barrier being thus formed to the force of the lake waves, the sudden check of velocity causes them to deposit a portion of the silt they hold in suspension upon the upper surface of this stratum of ice. By repeated accumulations in this way, the weight becomes sufficient to sink the whole mass to the bottom. There it rests, together with other strata, which are sunk in the same way, until the channel is obstructed by the combined masses of ice and silt. In the spring when the ice melts the silt is dropped to the bottom, which, combined with that constantly deposited by the lake-shore currents, causes a greater accumulation in winter than at any other season."

These bars at the natural river-mouths had frequently not more than two or three feet of water; and some of them have entirely closed up the entrance, although, at a short distance inside there might be a depth from twelve to fifteen feet, or even twenty feet of water.

The channels of these rivers have also a tendency to be deflected from their courses, on entering the lake, by the shore-currents, which, driven before the prevailing winds, bend the channel off at right angles, and carrying it parallel with the lake-shore, form a long spit of sand between the river and the lake.

Thus in constructing an artificial harbor at one of these river-mouths, the first object aimed at by the early engineers was to prevent the further formation of a bar; and the second, to deepen and improve the river-channel. The former is attained by running out piers into the lake from the mouth of the river; and the latter, by the use of the dredge-boat to cut through the obstructions.

Harbors of this kind were constructed prior to 1856 at Chicago, Waukegan, Kenosha, Racine, Milwaukee, Sheboygan, Manitowoc, Michigan City and St. Joseph, on Lake Michigan; at Clinton River, on Lake St. Clair; at Monroe, Sandusky, Huron, Vermilion, Black River, Cleveland, Grand

River, Ashtabula, Conneaut, Erie, Dunkirk and Buffalo, on Lake Erie; at Oak Orchard, Genesee River, Sodus Bay, Oswego and Ogdensburgh, on Lake Ontario.

For Lakes Huron and Superior no appropriations had yet been made, the scanty population of their shores not seeming to demand it.

Besides these river-harbors, Colonel Graham, in 1855, recommends to the government the construction, at certain points on the lakes, of sheltered roadsteads, or harbors of refuge, to which vessels might run for shelter in bad weather, when it might be difficult or dangerous to enter the river-mouths. These were proposed to be made by building breakwaters of crib-work, loaded with stone, and extending along the shore in a sufficient depth of water to admit vessels riding easily at anchor under the lee.

Generous appropriations are now made by Congress for the maintenance and improvement of lake harbors and river. The total from 1824 to 1890 reached \$37,247,993, and subsequent appropriations bring the aggregate to about \$50,000,000. This national aid has been invaluable to the magnificent expansion of lake commerce in recent years, and in consequence the region of the Great Lakes has enjoyed a prosperity unequalled elsewhere in the United States. On the following pages are presented the harbor improvements that have been made at the various ports on the Great Lakes.

#### LAKE ONTARIO HARBORS.

##### CANADIAN SIDE.

*Kingston*, a leading Canadian port on Lake Ontario, is also the oldest. It is situated at the foot of the lake. Here, in 1673, at the mouth of Cataraqui creek, was established a French fort in the territory of the fierce and unfriendly Iroquois. It was called Fort Frontenac, in honor of the Count de Frontenac, who was governor of New France from 1672 to 1682, and from 1689 until his death in 1698. This post had varying fortunes at first, but was held to be of the first strategic importance. It was here, in 1678, that the first vessel on the

Great Lakes was built, the little schooner Frontenac, of about ten tons, in which La Salle and Father Hennepin sailed up Lake Ontario a few months before the Griffin was built. One or two other small schooners were launched at Frontenac soon after, but their names have not been preserved. During the French and English war, from 1756 to 1762, or shortly before, a small fleet of war vessels was built at Frontenac. Seven vessels fell into the hands of the British when, during that war, Frontenac was taken by Colonel Bradstreet. Under English dominion the marine interests of Lake Ontario were developed, and quite a fleet appeared in the government service. Merchant vessels followed. In 1795 there was running between Kingston, Oswego and Niagara the schooner *Sophia*, described as a fast sailor. In May, 1795, she accomplished her journey from Kingston to Niagara in eighteen hours. The *Simcoe Gazette*, in 1799, thus describes Kingston harbor: "Kingston, at the mouth of the St. Lawrence, being the best harbor for the shipping at this end of the lake, and the place where the bateaux from Montreal resort, must be a town of some consequence, though it is incapable of defense. It cannot under present circumstances be of great importance. It has astonishingly increased since the establishment of the government." The first Canadian steamboat on the Great Lakes, the Frontenac, was built at Finkle's Point, Ernestown, now within the corporation of Bath, eighteen miles from Kingston. She was commenced in October, 1815, and launched September 7, 1816. Before the advent of the railways, and during the period of steam navigation, Kingston was a most important port of travel and trade, being the terminus of both lake and river navigation. It is now a flourishing city of about 20,000 people.

Kingston harbor is one of the best natural harbors on the lake; but the approach to it is dangerous. There are three channels by which it may be reached: 1.—The Batteau channel, between Wolfe and Gage islands, which is generally used by vessels of small draft; 2.—The South channel, between Gage island and Snake island; and

3.—The North channel, between Snake island and the main land, which, in 1857, was by far the deepest, having from four to ten fathoms of water.

This is a very important harbor. It is 172 miles west of Montreal. During the seasons of 1874-75-76 Carruthers shoal was being dredged so as to obtain a depth of 13 feet of water at low water. The total expenditure from July 1, 1867, to June 30, 1882, was \$14,814.

In 1882 there was voted for the harbor here \$12,500 for the removal of the top of Point Frederick shoal, so as to obtain a depth of 15 feet at low water in Lake Ontario. In 1883 \$12,500 more was voted by Parliament for continuing this work.

At the session of 1884 \$7,000 was voted to continue the work of removing the top of the above-mentioned shoal, so as to give 15 feet of water. The work was continued in following years.

In March, 1889, a contract was entered into for the construction of a dry dock here, an admirable site being selected in the center of the harbor. This dry dock was to be entirely of stone, and of the following dimensions: Length of floor, 280 feet; width of floor, 40 feet; width at coping level, 70 feet; depth from coping to floor, 26 feet; depth of water on sill, at low water in the lake, 15½ feet; width of entrance, 48 feet. The entrance was to be closed with an iron caisson, and centrifugal pumps were to be used in emptying the docks.

On June 19, 1890, the corner stone of this dock was laid by Right Hon. Sir John A. McDonald, assisted by the Minister of Public Works.

The lights in the vicinity of Kingston are the following: At Barriefield Common two lights, the front light 370 feet east from the end of bridge to Kingston, established in 1892, and a light 1,500 feet northeast from the front light, and established in 1892. These two lights are headlight lanterns, which show over a small arc on each side of alignment, which leads inside Carruthers and Point Frederick shoals.

The Kingston light, on City Hall clock, is a fixed white light.

Snake Island light, on pier, on bar north

side of channel, 5 miles west of Kingston, established in 1858.

Nine Mile, or Gage Point light, on the southwest point of Simcoe island, nine miles west of Kingston, established in 1833. There is here also a steam fog horn, blasts 8 seconds, silent intervals 22 seconds.

Pigeon Island light, four miles from the head of Wolfe island, every 70 seconds, established in 1871.

Outer Drake, or False Ducks light, on the east point of Wolfe island, established in 1828.

South Bay Point light, on Point Traverse, established in 1881.

Prescott is an incorporated town on the St. Lawrence river, 13 miles east of Brockville. The cuts vary from 9 to 15 feet below low water.

The lighthouse here is at Windmill Point, about one and one-half miles below Prescott. Cole Shoal lighthouse is situated on a pier five miles west of Brockville, three-fourths of a mile from north shore. It was established in 1856. Grenadier Island lighthouse is on the southwest point of the island, on the north side of the channel, two miles below Rockport. It was established in 1856. Lindow Island lighthouse is on the northwest point of the island, on the south side of the channel, five miles west of Rockport. It was established in 1856.

Gananoque harbor is in the county of Leeds, at the mouth of the Gananoque river. It is eighteen miles northeast of Kingston. In 1881 there was expended here \$245 in dredging the Gananoque river, in order to permit the larger class of vessels to enter the harbor.

The lighthouses in the vicinity of Gananoque harbor and above it on the St. Lawrence river are the following: Gananoque Narrows, on the northeast end of Little Stave island, on the south side of the channel, five miles below Gananoque. It was established in 1856. Jackstraw Shoal, on the north side of the channel in the river, two miles below Gananoque. It was established in 1856. Spectacle Shoal, on the north side of the channel in the river St. Lawrence, one-fourth of a mile west of Gananoque. It was established in 1856.



Red Horse Rock, at the head of Buck's island, on the southeast side of channel, and one mile above Spectacle Shoal. It was established in 1856. Burnt Island, on the southeast part of the island, north side of channel, one-half mile above Red Horse Rock light, was established in 1856. Wolfe Island lighthouse is on Quebec or East Point. It was established in 1861. Brown's or Knapp's Point lighthouse, was established in 1874.

*Portsmouth* harbor is situated on Portsmouth bay, two miles from Kingston. Dredging in 1882-84 resulted in a depth of 13 feet of water at low water in Lake Ontario. The government has done little work here since the latter date.

*Napanee* harbor is situated on the right bank of the Napanee river, about five miles above its discharge into the Bay of Quinte, Lake Ontario. In 1861 the government spent \$1,078 in excavating a channel one-half a mile in length to a depth of nine feet through a shoal, over which there had been previously a depth of only six feet.

At the Session of 1882 there was voted to continue the work here the sum of \$5,000, and a dredge was engaged a portion of the year in opening a channel 15 feet deep through two shoals below the town of Napanee. Since 1884 but little has been done here by the government.

*Picton* harbor is on the south side of the Bay of Quinte, 36 miles southwest of Kingston, and eight miles east of Belleville. Prior to Confederation the government expended \$8,424 in dredging the channel to a width of 140 feet, and to a depth of nine feet from the wharves at the head of the bay to deep water outside. Later, in securing a depth of 10 feet of water, the sum of \$5,684 was expended. The total expenditure of the government under Confederation up to June 30, 1882, was \$13,488, since which time but little has been done.

*Consecon* harbor is at the head of Weller's bay. During October and November, 1881, dredging was done on the shoals which obstructed the harbor, affording partial relief, and subsequently continued. From Confederation to this time there was

spent here \$8,178. But little has been done since that time.

There are two range lights on Weller's bay; one of them at the southwest end of Quinte Carrying place, established in 1876, and one 308 feet northeast, from the front light, established in 1876.

*Shannonville* harbor is situated on the Salmon river, about nine miles from Belleville, and about 40 miles west of Kingston. It is two miles from the mouth of the river, which has a deep channel leading to the wharf, but at the mouth of the river there was a bar composed of sand and sawdust. In 1874-82 there was dredged a channel through the bar of 1,700 feet in length, 40 feet wide and 8 feet deep. The total expenditure from the time of Confederation to June 30, 1882, was \$4,906. Considerable work has since been done.

*Belleville* harbor is situated at the mouth of the river Moira, which flows into the Bay of Quinte, 40 miles west of Kingston and 113 miles east of Toronto. This harbor is naturally well sheltered, but was originally obstructed by several shoals partly formed by sawdust and mill refuse brought down by the river. The municipality first took up the work of dredging here, and in 1874 the department spent \$10,000 in continuing the work thus commenced. From 1875 to 1882 there was spent in this work the further sum of \$12,688, of which the municipality contributed \$3,000. From the time of Confederation to June 30, 1882, there was spent \$22,688, besides that spent by the municipality.

In 1886, \$10,000 was voted toward dredging the mouth of the Moira river, so as to afford an outlet for the waters during freshets. Progress was very slow because of the hardness of the material to be removed. The contract was completed in July, 1889.

The work done here was of great value, preventing the recurrence of floods, which caused the river to overflow its banks. A number of cuts have been made up the river, varying in depth from 7 to 9 feet.

The lighthouses in the vicinity of Belleville, the Bay of Quinte and the Murray canal, are as follows: One on the northern-

most point of Centre Brother island, established in 1890. One on Point Pleasant, or Indian Point, at the entrance to the Bay of Quinte, established in 1866.

One at Deseronto on the railway wharf, established in 1885. One on Telegraph island, in the Bay of Quinte, established in 1870. The Belleville lighthouse, on the southeast edge of the shoal at the entrance to the harbor, 450 feet west from the end of the railway wharf, established in 1881. One at the Bay of Quinte bridge, immediately west of Belleville, established in 1891. One on Nigger Island shoal, in 11 feet of water on the north side of the steamboat channel, established in 1894. One on the north pier 30 feet from the outer end, east entrance to Murray canal, established in 1891. One above the center of the swing pier of the Carry Place Highway bridge, 4,725 feet from the preceding, established in 1891. One above the center of the swing pier of the Central Ontario railway bridge, 1,500 feet from the preceding, established in 1891. One above the center pier of the Smithfield bridge, 6,600 feet from the preceding, established in 1891. One above the center of the swing pier of Lovatt's bridge, 7,700 feet west from the preceding, and 6,490 feet from the west entrance to the canal, established in 1891. One on the north pier 30 feet from the outer end, west entrance to Murray canal, established in 1891. Brighton range light, No. 3, on the north side of the channel on the prolongation of the axis of the Murray canal, 7,200 feet from the end of canal piers, and 3,920 feet from Brighton wharf, Presqu' Isle bay, established in 1891. Brighton range light, No. 2, 5,360 feet from Brighton range light No. 3, and 1,440 feet from Brighton wharf, established in 1891. Brighton range light, No. 1, 1,420 feet S. E. by E.  $\frac{1}{2}$  E. from Brighton range light, No. 2, and 1,000 feet from Brighton wharf, established in 1891. Salt Point, on extremity of sand spit, established in 1851.

Trenton harbor is at the head of the bay of Quinte, 60 miles above Kingston, and 12 miles from Belleville. In 1878-79-80 dredging operations were carried on to obtain a channel 150 feet wide and 10 feet

deep, at low water. Up to June 30, 1882, there had been spent here the sum of \$6,418.

Various cuts have been dredged to a depth of 10 feet below low water mark and to a width of 25 feet.

*Presqu' Isle Harbor.*—Twenty-four miles east of Cobourg, is the west point of Presqu' Isle, which has 90 feet of water within a short distance of the shore. A lighthouse was erected here in 1856, five miles north-east by east of the point, and 67 feet high. It was lighted for the first time in September, 1856, and had a fixed bright light visible from 12 to 15 miles. There had then also just been completed a lighthouse on Egg island, or the Scotch Bonnet, which was one mile south-southwest of Nicholas island, the light from which was visible 13 miles. This harbor of refuge, when once entered, was perfectly secure, as it had plenty of water with good holding ground.

Prior to the Confederation the government had placed buoys to mark the harbor. A channel varying from 220 feet to 160 feet, and having a depth of 12 feet of water, has been dredged through the shoal, known as the "Middle Ground," and up to June 30, 1882, the government had expended here the sum of \$26,981.

Presqu' Isle lighthouse is on the east point of the peninsula. It was erected in 1840. Point Peter lighthouse is on the point established in 1833. Salmon or Wicked Point lighthouse is on the extremity of the point, established in 1891. Scotch Bonnet, or Egg island, lighthouse, is on a small island one mile southwest of Nicholson's island, established in 1856.

Colborne harbor is about eight and one half miles east of Grafton, and had a wharf for the accommodation of vessels in the early days. The vessels in this part of the lake were exposed because there was no shelter for them to occupy, particularly when the wind was off shore. The harbor here is entered only by small schooners, carrying wood or produce of different kinds in the fall of the year.

Grafton harbor is situated about eight miles east of Cobourg, and in 1857 had a

wharf which extended into the lake to the 10-foot contour.

*Cobourg* harbor is seven miles east of Port Hope, 96 miles west of Kingston, and 72 miles east of Toronto. The work of forming a harbor here was commenced in 1829, by a company organized under an Act of Parliament passed that year. The works were assumed by the government in 1842, and held until May 27, 1850, when they were sold to the town company or council of Cobourg for \$16,000. Prior to the union of the provinces in 1841, the government had spent on this harbor \$20,010; after the union the sum of \$41,999.98 was advanced as a perpetual loan at six per cent. interest.

At the time of Confederation, July 1, 1867, the works consisted of two piers, the united length of which was 2,047 feet, and they were 190 feet apart at the entrance of the harbor, and inclosed an area of about  $12\frac{1}{2}$  acres, the depth of water within this area being at the outer end of the east pier, 14 feet, and decreasing to about 8 feet in the center of the basin. In 1873 a survey of the harbor was made and an agreement entered into with the harbor commissioners for the improvement of the harbor, the commissioners to pay one-third of the cost and the government two-thirds. Under this agreement a contract was entered into in September of that year for the construction of a pier 1,500 feet long and 30 feet wide from the foot of Hibernia street. In 1881-82 an arm was placed under contract extending 150 feet in a southeasterly direction, but at the close of the fiscal year ending June 30, 1892, it was not completed. Up to that time the entire amount expended by the government on the improvements here was \$92,161.

In 1882, \$12,000 was appropriated toward extending the piers. In 1883 Parliament appropriated \$20,000 more, for the extension of the eastern pier. The expenditures from Confederation to 1884 were, \$116,861. The basin has since been deepened inside to 16 feet along the wharf, and along the breakwater to 17 feet, and a channel through the center of the basin was dredged to 16 feet. In 1888 the harbor

was deepened to 13 feet, and in 1889, 150 feet of superstructure was built to the western pier by Mr. Dinwoodie.

The lighthouses in the vicinity of Cobourg are the following: One on the east pier, established in 1844, and maintained by the municipal corporation. One on the east pierhead, 409 feet south by west one-half west, outside of the corporation light, established in 1886. One on the west pier at the elbow, 190 feet from the extremity, established in 1883, and moved to its present location in 1887. It is visible from all points seaward.

One on Peter Rock, or Gull Island, four miles west by south from Cobourg, a fixed white light, supported by an octagonal stone structure, established in 1844.

*Port Hope* harbor is seven miles above Cobourg and twenty-three miles east one-half north of Darlington. The Port Hope Harbor & Wharf Co. was incorporated in 1829, and in 1832 obtained a loan from the government of \$8,000. In 1852 this company sold the harbor to the town commissioners of Port Hope for \$46,000. In 1864 authority was given to the Port Hope, Lindsay & Beaverton Railroad Co. to acquire and hold the harbor.

In 1857 two rows of piers were extended into the lake to the 13-foot contour, and a basin was thus formed at their inner or northern extremity. The harbor was perfectly safe for vessels from any wind north-east or west, but not from wind from any other direction, because of the swell that then entered the basin. A lighthouse was erected on the east pier.

Prior to Confederation the amount expended on this harbor by the government was \$58,680, the works consisted of two piers, the eastern one extending 600 feet into the lake, and the western one 480 feet. The width of the entrance was 104 feet, the piers reaching to the 13-foot contour, at low water. There was a depth of 9 feet at the entrance to the harbor, which had an area of about three acres. In 1875-76 the western pier extended 150 feet, and the eastern pier 120 feet, and the entrance was dredged to a depth of 13 feet. During the summer of 1882 the work of extending the



eastern pier 100 feet more was commenced, and considerable dredging also done. Up to June 30, 1882, the government had expended here \$30,401.

In 1882 the east pier was completed, and a contract was entered into for the construction of a breakwater from the west pier for \$11,261. The west pier was completed by September, 1883.

The light here is called the Port Hope light, and is about 110 feet from the extremity of the east breakwater, established in 1868.

*Port Britain* is situated in the center of the township of Hope in the county of Durham, about 60 miles to the eastward of Toronto, four miles west of Port Hope, and nearly opposite Rochester, N. Y. The harbor here was constructed in 1857 by the Port Britain Harbor Company, of which J. Morrell was the president. It was constructed as a harbor of refuge, and its great advantages were derived from the fact of the splendid anchorage afforded by a blue clay bottom entirely free from boulders. It is protected to the east and west by bluffs, which form an excellent shelter. The inner harbor is formed by the natural basin, having an area of about fifteen acres, with 12 feet of water; and the outer harbor is formed by piers extending about 700 feet into the lake 300 feet apart at the entrance, with 14 feet of water and an area of 6 acres. Lights were placed on both piers. This harbor was ready for vessels in June, 1857, the inner harbor being ready by the fall of the same year.

*New Castle* harbor is 47 miles east of Toronto, and four and one-half miles east of Darlington. In 1857 the harbor consisted of a wharf running out into the lake to the one-foot contour. But it was then little used, as it could not be approached except in fine weather. Four miles east of this port there is a large boulder some distance out in the lake, called the "Peach Stone," and four miles east of the Peach Stone there was a reef of boulders about 300 yards out in the lake in a southerly direction.

In 1878 the government granted \$5,000

to obtain a depth of water in the harbor of 10 feet.

The lighthouse, on the outer end of the east breakwater pier, was established in 1847, rebuilt in 1890, and is maintained by the Newcastle Harbor Company.

*Port Darlington* is forty miles east of Toronto, the harbor consisting of two piers, one of which is 1,180 feet long, and the other 1,620 feet long. They were built by the municipality. In 1875-76 the government dredged the harbor to a depth of 10 feet.

The harbor company in 1857 had much improved this little port by extending the piers into 12 feet of water, and dredging the basin within. Raby Head is one and one-half miles west of Darlington, and is a high, perpendicular, clay bluff. Darlington is the port of Bowmanville, two miles distant. A lighthouse was early erected here. Up to June 30, 1882, the government had expended in the improvement of this harbor but \$5,000. The Darlington lighthouse is located on the pierhead.

*Oshawa* harbor is six miles east of Whitby, in the bend of a small bay, and consisted in 1857 of a well-constructed wharf running out from the mainland, into the lake, to a depth of ten feet of water. At the south end of the wharf there was then a small store house painted red, and under the angle formed by the roof there was a large lamp, intended to benefit sailors when in the vicinity. The town of Oshawa is on Warren's creek, in Ontario county. The harbor is about a mile and a half from the Grand Trunk station, and in 1875 the government granted \$5,000 toward enlarging the pier mentioned above, and dredging the harbor; the harbor trust at the same time expending \$9,968. This is all that was spent on the improvement of this harbor, except that spent in earlier days by the municipality. The Oshawa lighthouse, located on the pierhead, was established in 1863.

*Whitby* harbor, formerly Windsor harbor, is about thirty miles east of Toronto. It is one of the best on the north side of the lake, standing near the center of a deep bay, between Raby Head on the east and Scarborough Heights on the west. The

harbor is formed of a string breakwater of riprap work stretching across the head of the bay, by which it is separated from the lake and includes a spacious basin, the entrance to which is at the eastern extremity between piers running south a considerable distance into the lake, 250 feet apart, and with a depth of about 14 feet of water in the channel. A strong current sets in and out of this harbor, and in 1857 there was a lighthouse built on the end of the pier to the west.

The breakwater mentioned was built in 1843-46, and the harbor was dredged in 1847-50, the total expenditure up to October, of the latter year, being \$178,703. By an Order in Council, dated August 13, 1850, this harbor and the road leading from it to Lake Scugog was sold for \$80,400, to the Port Whitby & Lake Scugog, Simcoe & Huron Road Company, which company defaulting in its payments, the government resumed possession in 1863. On March 21, 1864, the harbor was sold to the Port Whitby Harbor Company for \$35,150, and the road to another company for \$10,000.

During the latter part of the year 1890, dredging was carried on to the extent of removing 9,930 cubic yards of material. The dredge Nipissing was engaged here from September 16 to October 1, 1894, removing a shoal. In 1894 the government made two cuts of 578 feet long, 44 feet wide on the shoal, extending beyond the piers, and one cut in the harbor alongside the east pier 116 feet long, 22 feet wide, all to a depth of 12 feet, removing 3,780 cubic yards of material. The lighthouse at Whitby is on the west pier, and was established in 1844. It is not under the Marine Department.

The *Port of Liverpool*, or *Pickering*, is situated 26 miles east of Toronto. It is formed by a deep bay, formerly known as Frenchman's bay, running into the land, and it is separated from the lake by a gravelly beach, through which the harbor company previous to 1857 cut a channel 100 feet wide. The average depth of water inside the bay was then 9 feet, at the outer mouth between the piers 11 feet and at the inner mouth 7 feet. Through this channel

a current runs in and out of the bay with great regularity once in about four minutes. The harbor is completely land locked, and is therefore well sheltered. In 1857 there was a lighthouse on the east pier, but the light could scarcely be seen five miles into the lake. Two piers were built here by the local authorities in 1878 and 1879, and the government extended the western pier 60 feet, and dredged between the piers so as to give a depth of 11 feet of water.

In 1894 two cuts were made between the piers, 708 feet in length, and 45 feet wide, by 11 feet deep. In 1895 one cut 800 feet long was made, 25 feet wide and 10 feet deep.

The lighthouse here is known as Frenchman's Bay or Pickering, and is situated on the east pierhead. It was established in 1863, and rebuilt in 1880.

*Toronto* has the best natural harbor on Lake Ontario. It is bounded on the north by the mainland, and by a long, low, narrow strip of land on the east, south and southwest, formerly a peninsula, but now an island. This peninsula or island extends in a southwest direction from the highlands in the township of Scarboro, and terminates in a point which suddenly turns to the north opposite the old garrison. Upon this island there have been trees growing ever since it was first mentioned in history, and it has been said that from the mainland these trees appeared to be standing on the water, the Indian name for which appearance is "To-ran-to."

On Gibraltar Point, the southwest extremity of this island, stands the lighthouse, 66 feet high. The lighthouse was built in 1800.

Toronto harbor is 333 miles southwest of Montreal, 169 miles from Kingston, and 39 miles northeast from Hamilton. At the northeast corner it receives the river Don, and the eastern side is bounded by marshy land many acres in extent, which separates it from Ashbridge's bay. The island was separated from the mainland in 1858, when a small breach was opened by the water through the beach, the opening continually increasing in size until now it is about 2,000 feet wide, when the lake is at its lowest

level. The island has been constantly changing its shape, becoming narrower at its eastern end and wider at the western end, so much so that for some years previous to 1882 dredging had to be extensively carried on in order to maintain a width of 300 feet in the channel entrance to the harbor, and to a depth of 14 feet. It was found necessary, from 1874 to 1880, to blast into the solid rock in order to obtain a depth of 16 feet.

Prior to Confederation the sum of \$22,965 had been expended in connection with this harbor, and from 1867 to 1882 the additional sum of \$70,589 was expended.

The first official mention of this harbor in history was made in 1788 by J. Collins, deputy surveyor-general, in a report presented to Lord Dorchester, Governor General, on the military posts and harbors on Lake Ontario, Lake Erie and Lake Huron. Mr. Collins said that the harbor was "near two miles in length from the entrance on the west to the isthmus between it and a large morass on the eastward. The breadth of the entrance is about half a mile, but the navigable channel for vessels is only about 500 yards, having from three to three and one half fathoms of water. The north or main shore, the whole length of the harbor, is a clay bank from twelve to twenty feet high, and gradually rising behind. Apparently the land is fit for settlement. The water is rather shoal near the shore, having but one fathom depth at one hundred yards, and when I sounded here the waters of the lake were very high."

The first actual survey of the harbor was made by Bouchette in 1793, in which year the site upon which Toronto now stands presented but one solitary Indian wigwam; but notwithstanding this limited population it was, in the spring of 1794, selected by Lieutenant-Governor Simcoe as the seat of government for Upper Canada.

Mr. Bouchette in his work on the "British Dominions in North America," published in 1832, describes the harbor of Toronto (York) as follows: "The harbor of York is nearly circular, and formed by a very narrow peninsula, stretching from the western extremity of the township of Scarborough in

an oblique direction for about six miles, and terminating in a curved point nearly opposite the garrison, thus including a beautiful basin about a mile and a half in diameter, capable of containing a great number of vessels, and at the entrance of which ships may remain with safety during the winter. The formation of the peninsula itself is extraordinary. Upon a narrow slip of land in several places not more than sixty yards in breadth, but widening toward its extremity to nearly a mile, it is principally a bank of sand, lightly overgrown with grass. It is in its widest part very curiously intercepted by many large ponds that are the natural resort of large numbers of wild fowl; a few trees scattered upon it greatly increase the singularity of its appearance; it lies so low that the wide expanse of Lake Ontario is seen over it; the termination of the peninsula is called Gibraltar Point, where a block house has been erected. A lighthouse at the western extremity of the point has rendered the access to the harbor safely practicable by night. The eastern part of the harbor is bounded by an extensive marsh through which the river Don runs before it discharges itself into the basin."

With the growth of population, and the resulting clearing and cultivation of the surrounding lands, and the disappearance of Scarboro Heights to the eastward, whence was derived the material forming the peninsula, changes soon became apparent in the state of the harbor; and the necessity of its preservation early attracted attention. The changes which had taken place in the dimensions of the peninsula and the encroachment of the shoal from Gibraltar Point northward, to the great detriment of the entrance, made it necessary that steps be taken to check these tendencies, if the harbor were to be preserved and to remain of value to commerce.

In 1850 the harbor was placed in commission. Numerous reports and recommendations were made by different persons, but little work was done for many years. The western entrance, however, appears to have been maintained at the width of about 400 feet, and to the depth of 13 feet. Kivas Tully, engineer to the harbor board, re-



ported that during 1866 an additional arm had formed which tended in a northerly direction about 300 yards west of the island, making another bay. This arm, now known as Hanlan's Point, kept increasing up to 1880, and extended north beyond Gibraltar Point, until it narrowed the western entrance down to 230 feet.

In 1882 \$100,000 was voted for the construction of extensive works for the protection of the eastern portion of this harbor, and a contract was entered into for the construction of 13,130 feet of protection works on the eastern side of the island and the eastern side of the harbor, the aggregate of the two contracts amounting to \$203,385. In 1885 only the eastern portion of the work had been undertaken, a total length of 6,550 feet. From the Confederation to 1884 there had been spent the sum of \$376,894.

At the close of the year 1884 the work at Toronto island was virtually completed, and the channel at the western entrance materially improved. In 1885 and subsequent years the work on the breakwater was carried on, and the work done consisted in placing large stones on the exposed portions of the outer breakwater. In 1888 more large stones were placed on the eastward side of the protection works to the island. In 1889 a contract was made for dredging the channel to a width of 300 feet at the eastern entrance to the bay, to a depth of 12 feet, and the work of making good the stone slope in front of the island works continued. During the year a channel 250 feet wide and 12 feet deep was dredged through the gap, and a large quantity of heavy stones was placed in the talus in front of the breakwater at the island, a total length of 3,700 feet being thus protected. In 1891 additional talus was constructed, enough to bring the total length up to 4,900 feet. During the year 1892 two rows of crib work were put in, one row on either side of the channel.

During the fiscal year ending June 30, 1894, eight cribs were sunk on the west side of the channel, making 54 cribs in all in position, 1,105 feet of superstructure was constructed, making a total of 3,760 feet completed.

During the fiscal year ending June 30, 1896, two cribs were sunk on the west side of the channel completing the west pier. During the year 1897 the dredge was kept at work on the eastern channel, in maintaining its depth and width, as that channel is now used more than the western one.

At Toronto there are two range lights, the front one being 37 feet from west end of the Queen's wharf, established in 1856, and a back range light on extension of wharf shoreward established in 1838.

The main light is on Gibraltar Point, one and three-quarter miles south of Toronto, established in 1820.

During 1897, 2,988 vessels arrived at Toronto, as against 2,820 in 1896, with a tonnage of 954,597 as against 909,146 in 1896. Receipts of coal by water totaled 128,217 tons against 153,146 tons in 1896.

*Port Credit* resembles Oakville, the piers running out to deep water, and the basin within being large and capable of accommodating a large number of vessels. It is twelve miles southwest by west of Toronto. The lighthouse is on the east pier. Two small ports are situated between Oakville and the Burlington canal, their wharves running out into the lake to the 10-foot contour; but because of their exposed situation they are seldom visited, except by the smallest class of vessels, and by them only in fine weather.

The lighthouse at Port Credit is at the outer end of the north breakwater pier, established in 1863 and rebuilt in 1882. It is visible from all points of approach.

*Oakville* harbor is situated 22 miles west by south of Toronto, and 14 miles northeast by north of Burlington canal. The piers here run nearly north and south into the lake to the 12-foot contour, and are 100 feet apart. Within them is a basin capable, when properly dredged, of accommodating a large number of vessels. The lighthouse is on the east pier, and carries a light visible about seven miles into the lake.

*Hamilton* harbor is at the extreme west end of Lake Ontario. It is separated from the lake by a long, low beach of sand and gravel. This beach stretches across from the northern to the southern shore in a

south-southeast direction, converting that portion which lies to the west into a large bay, named Burlington bay, the entrance to which is by a canal about one-half a mile long and 200 feet wide. During the year 1856 several changes were made in this canal, additional crib work was added to the eastern or lower end of the south pier 300 feet in length, and considerably higher than the old work. The old lighthouse, which stood near the center of the canal on the isthmus, was destroyed by fire, and a new one erected on the east end of the south pier. Burlington bay is upward of five miles in length, and about three miles wide, with from 20 to 40 feet of water, and there is good holding ground immediately inside of the canal.

During 1895-96 Burlington channel was dredged to a depth of 14 feet at low-water level.

There are two lighthouses in the vicinity of Burlington bay, the main light being on the middle of the south pier at the entrance, 1,570 feet from the front light; it was established in 1838. The front lighthouse is near the outer end of the south pier. It was established in 1845.

*Port Dalhousie* is at the outlet of the Welland canal, and the harbor was originally capable of being made safe in any weather or in any wind. The piers run north and south to the bend, and then to the lock northeast and southwest. They are about 3,000 feet long and 200 feet apart.

There are two lighthouses near Port Dalhousie. The main lighthouse is on the east pier 324 feet from the outer end. It was established in 1852. The other light is near the outer end of the east pier, 298 feet from the main light. It was established in 1879. There is also the Niagara Bell Buoy, in 20 feet of water off the west side of the Niagara river.

#### UNITED STATES.

*Ogdensburg.*—Near where the Oswegatchie river mingles its waters with those of the St. Lawrence, at the site of Ogdensburg, Francis Picquet, a Sulpitian, in 1749 erected a stone habitation and a small fort,

called *Le Presentation*. The French at that time were seeking to convert the Iroquois, and the fort was added as a protection against English encroachments. It was a few years later dismantled, and the English occupied the site in 1760. They are believed to have maintained the fort as a protection to their fur trade. Permanent settlement was made here under Samuel Ogden, the proprietor, by Nathan Ford, his agent, in 1796. Settlement would have begun several years earlier, but the British retained possession. A gristmill was built in 1798 and another in 1799, and lumber interests were quickly developed. Ogdensburg was named from Samuel Ogden. During the Revolutionary war all his brothers except Abram, also his father David Ogden, adhered to the Royal cause. Samuel married a sister of Gouverneur Morris, and was the father of David B. Ogden. In 1804 only four families lived at Ogdensburg. The schooners *Experiment* and *Collector* were launched here in 1809. In 1810 the third schooner, the *Genesee Packet*, was launched and rigged. One of her owners, Mr. Rosseel, wrote in 1810, "We have renounced the project of building boats, since with them we could not enter into competition with the Kingstonians, in the line of transporting produce down the St. Lawrence, a rivalry which we are solicitous to maintain, though we work for glory; we have therefore resolved to combine building arks." At the breaking out of the war of 1812 the vessels belonging to the port of Ogdensburg had become the principal carriers on the lake, and the commerce was growing more rapidly than that of any port on the lake. The approach of the war checked the growth of the village, and the embargo stopped commerce. Ogdensburg was taken by the British in February, 1813, and partially destroyed. The construction of Fort Oswegatchie had been commenced here, but was not completed. The village of Ogdensburg was incorporated in 1817. The completion of the Oswego canal conferred a benefit upon Ogdensburg, and the construction of the Northern railroad, in 1850, gave it an impulse toward prosperity; but the advantage of the port

as the natural limit of lake navigation by sail vessels has contributed perhaps more than any other factor to the commercial importance of the city.

Ogdensburg harbor is at the mouth of Oswegatchie river, which here flows into the St. Lawrence river. The object of the improvement here has been the formation of a channel of adequate width and depth along the wharf frontage of the port of Ogdensburg and up the Oswegatchie river to the bridge, with entrances connecting this channel with deep water in the St. Lawrence river, and as the wharf line is very crooked a variable width is required with a minimum width of 150 feet.

The first appropriation for this improvement was made August 30, 1852, and the last on June 3, 1896, the entire amount appropriated being \$282,356. There was expended to July 1, 1898, the sum of \$282,206. The various appropriations have been as follows: 1852, \$3,000; 1867, \$40,000; 1870, \$15,000; 1871, 25,000; 1872, \$10,000; 1873, \$6,000; 1874, \$6,000; 1875, \$5,000; 1879, \$300; 1880, \$50; 1882, \$10,000; 1884, \$15,000; 1886, \$10,000; 1888, \$15,000; 1890, \$42,000; 1892, \$40,000; 1894, \$20,000; 1896, \$20,000.

During the year 1896 the foreign receipts by river at Ogdensburg amounted to 97,952 net tons, of which 81,606 tons were lumber. Foreign shipments were 209,875 tons, included in which were coal, 115,286 tons, and cereals, 69,880 tons. Of coastwise trade 516,102 tons were received, including grain, 217,181; coal, 181,156; lumber, 46,478 tons, bran and feed, 35,079 tons. Coastwise trade shipped aggregated 62,509 tons. Total freight tonnage for 1896, 675,563.

In 1897 the total freight received and shipped was 866,035 tons, including 412,883 tons of grain, 162,929 tons of coal, and 162,218 tons of lumber. There were 1,938 arrivals and 1,929 clearances; registered tonnage, 1,173,021.

*Shoals Between Ogdensburg and the Foot of Lake Ontario.*—In its original condition the channel of the St. Lawrence, for 11 miles, extending from Sister islands light down to the head of Brockville nar-

rows, 15 miles above Ogdensburg, was obstructed by 12 shoals (ledges) in the track of vessels, on which the depth was 9½ to 16 feet at low water. The original project, Act of September 19, 1890, was to remove to 18 feet below the zero of the Ogdensburg gauge, Blind bay, Dark island and Haskell ledges, between Sister islands and Crossover light, at an estimated cost of \$43,305. In 1893 the project was amended to include the removal of outlying spurs of Haskell shoal, increasing the cost of the project to \$54,772.

The Acts of August 18, 1894, and June 3, 1896, authorized expenditure for improving shoals in the St. Lawrence between Ogdensburg and the foot of Lake Ontario, and on October 25, 1894, the project was extended to include the removal of certain smaller shoals. The removal of Dark island shoal and Blind bay shoal to the depth of 18 feet below the zero of the Oswego gauge was included in the improvements April 13, 1897. To June 30, 1898, \$47,763 had been expended, and appropriations amounting to \$48,000 had been made.

*Alexandria Bay* was selected by Cadwallader Child in 1804 while surveying a road to the St. Lawrence, as an eligible site for a fort, and a village site one mile square was reserved by Mr. Le Ray, the land owner. The village was surveyed in 1818. For many years a thriving lumber trade was carried on, continuing as long as the timber supply lasted. The lower wharf was built in 1823 by Fuller & Walton, and the upper wharf in 1840 by Walton & Hamblin. In early years the port was an important wooding station for steamboats, about 12,000 cords having been sold annually about 1852. A custom house was established in 1828. The population in 1850 was 164, in 1890, 1,123. The name Alexandria was derived from Alexander, a son of J. D. Le Ray. Alexandria bay lies opposite the Thousand Islands, and presents the most delightful scenery. As early as 1844 it began to attract the attention of fishing parties and tourists. For romantic scenery it has scarcely a parallel.

*Clayton.*—Near this pleasantly situated port of about 2,000 inhabitants commences



the head of the Thousand Islands, and directly opposite is Grindstone island, one of the largest of the group. Clayton was named in honor of Hon. John M. Clayton, United States Senator from Delaware. An ancient Indian fort had been located here, but in 1799 there was a solitary log cabin, which had probably been occupied by timber thieves. A sawmill was built here in 1803. Lumbering was very active in and about French Creek bay in subsequent years. Clayton was surveyed in 1824, but in 1830 contained only about 30 people. In 1835 there were 426; in 1854 about 1,000; in 1890, 1,748. Ship building was commenced at Clayton in 1832 by Smith & Merrick, the schooners Jesse Smith and Horatio Gates coming out that year. During the next twenty years the following schooners were built at Clayton: Franklin, Jefferson, Willet, Monroe, Madison, Cleopatra, Morgiana, D. Webster, Robert Wood, E. G. Merrick, Oneida, Western, St. Lawrence, John Oades, D. N. Barney, Niagara, Superior, Invincible, New York, Quebec, Manchester, Utica, Reindeer, Oneida, Chief, America, Flying Cloud, Sovereign of the Lakes, Northern Light, White Cloud, White Squall, and Thousand Islands. There were also built the steamers Niagara, 473 tons; Cataract, 577 tons; Ontario, 832 tons; Bay State, 900 tons; and New York, 994 tons. The principal builder in 1850 was John Oades, who also owned a shipyard at the foot of Wolf or Grand island, five miles distant, and on Canadian soil. There were built the steamers British Queen, 279 tons; British Empire, 330 tons; the brigs Quebec and Manchester and other craft. Lumbering interests were large from about 1825 to 1850.

*Cape Vincent.*—This village is delightfully located on a plain that rises by a gentle slope near the head of the St. Lawrence. Cape Vincent was named from Vincent Le Ray, son of the landholder, who owned, at an early day, the town and many others in Jefferson county, N. Y. Carlton island had been occupied by a British fort for a long period before the adjacent land had been purchased and colonized. In 1801 Abijah Putnam, from Rome, N. Y., located two

miles below Cape Vincent at a place early known as Port Putnam, where he established the first ferry to Wolf island. In the summer of 1809 Eber Kelsey, with a force of 20 men, cleared for LeRay at Cape Vincent a tract of 50 acres, erected a wharf and a number of buildings. A village was platted two years later. The lumbering business was established here in 1809, the timber being exported as staves and square timber. In 1810 about 200,000 staves were imported in vessels from the Genesee and Niagara countries. The business of building arks for the Montreal trade was developed to some extent; but the war of 1812 stopped it. There were then only about a half dozen families permanently located at Cape Vincent, but the transient population had been much larger. During the war the place was much exposed; and several minor but thrilling episodes occurred in that vicinity. After the war lumbering was resumed. The Cape Vincent custom house district was organized in 1818, including, beside Cape Vincent, the ports of Alexandria Bay, Clayton, Millen's Bay, Grenadier Island, Three Mile Bay, Chaumont Bay and Point Peninsula. Ship building began about 1819. The following vessels were built at Cape Vincent from 1819 to 1853: Schooners Henry, V. Le Ray, Lafayette, Ainsworth, Hannah, O. P. Starkey, L. Goler, Victor, Free Trader, Chief Justice Marshall, Henry Crevolin, John E. Hunt, Napoleon, Merchant, Amelia Roscoe, Potomac, Montezuma, Troy, Allenwick, Globe, Charles Smith, Algoma, Silas Wright and Port Henry; brigs Merchant, Iowa and Patrick Henry; sloop Elizabeth Goler; and propeller St. Nicholas.

The village was incorporated in 1853, at which time its population was 1,218. In that year it possessed a railroad, a wharf about 3,000 feet long, a grain elevator and a line of steamers, consisting of the Champion, Mayflower and Highlander, running daily, in connection with trains, to all Canadian ports from Kingston to Hamilton. The population in 1890 was 1,324. In Lake Ontario, opposite Cape Vincent, is Grenadier island.

The harbor of Cape Vincent has as yet

been but little improved. But in compliance with the River-and-Harbor Act of 1888, a preliminary examination was made for the purpose of establishing a breakwater. The local engineer reported the harbor worthy of improvement; but the chief engineer in his annual report for 1889 stated that "Having carefully considered the report made by the local engineer, in my opinion this locality is not at present worthy of improvement, and no instructions were therefore given for the survey proposed."

At this point the seas produced by northerly winds, having a sweep of five miles up a reach of the St. Lawrence river, surge directly against the wharf front of this harbor, and seas brought in by southwesterly winds from Lake Ontario surge along the harbor directly into the anchorage.

It was finally determined to improve the harbor here, the first appropriation made therefor being \$25,000 in the Act of 1896, to build a breakwater, 1,600 feet long, parallel to and 600 feet from the railroad dock, at an estimated cost of \$320,000. During the two years ending June 30, 1898, only \$247 was expended, leaving a balance of \$24,754 of the first appropriation.

Commercial statistics show a lake traffic of 9,933 net tons in 1896, including grain, 3,515 tons; coal, 1,552 tons; hay, 1,443 tons; lumber, 1,926 tons, etc. Passengers carried were 21,374.

During the year 1896 there were 836 arrivals with a registered tonnage of 128,760, and of these 84 vessels sought the harbor for refuge; 409 vessels were American owned and 427 Canadian owned. Departures were 828, registered tonnage 124,801. Greatest draft of vessel was 15½ feet; greatest registered tonnage of vessel 2,127; greatest load of vessel 933 net tons.

During 1897 there were 680 arrivals, 679 departures, registered tonnage 151,431. The freight received and shipped in 1897 amounted to 5,885 tons, of which, grain composed 693 tons; coal, 240 tons; hay, 510 tons; lumber and posts, 2,060 tons; general merchandise, 1,052 tons.

*Three Mile Bay*, situated in Jefferson county, N. Y., was in early years a ship-

building station of some importance. From the yard of Asa Wilcox were launched the following: In 1835, schooners Florida and Eton Bronson; 1836, schooners Pennsylvania and Kentucky; 1837, schooner Missouri; 1838, schooner Patriot; 1841, schooners Asa Wilcox and Havana; 1842, schooners D. D. Calvin and Rocky Mountains; 1843, schooners Cambridge and Neptune, and brig Empire; 1844, schooners Cuba and Oregon, and brig Ontario; 1845, schooner Milan and brig Hampton; 1846, propeller Clifton, brig Iroquois and schooners Champion and Rio Grande; 1847, schooners Palmetto, Seminole, Portland and Acadia, and brig H. R. Seymour; 1848, brigs Saxton and Ocean; 1848, schooner D. J. Schuyler; 1852, schooner Melrose; 1853, three-master Hungarian.

*Brownville* is a village of about 700 people; situated in Jefferson county, N. Y., on the right bank of the Black river, three miles from its mouth and at the head of navigation. The river has a fall of 24 feet, and manufacturing has been active for many years.

*Sacket's Harbor* is situated on the southwest side of a deep inlet, known as Black river bay, at about eight miles distance from the lake. The harbor was early regarded as by far the best on Lake Ontario for ship building, and as a naval and commercial depot. Its early commerce suffered when rival ports received railroad and canal facilities of trade. Settlement was commenced here in 1802 by Judge Augustus Sackett, who migrated from New York, and was agent for the owners of the land.

The first mercantile operations at Sacket's Harbor, on a large scale, were commenced in 1808 by Samuel F. Hooker. A trade in potash had sprung up with Canada, but the embargo of 1808 prohibited this commerce. The embargo was evaded at Sacket's Harbor and various Lake Ontario and St. Lawrence river ports. The difficulty of exporting this great staple of commerce directly from Atlantic ports to Europe led to extensive and systematic measures by traders for forwarding from the interior and southern counties of New York large quan-

ties of potash by lake and river to Montreal, where it was valued at from \$200 to \$320 per ton. To check the contraband trade, two companies of United States regulars were, in 1808 and 1809, stationed at Ogdensburg and Sacket's Harbor.

During the war of 1812 Sacket's Harbor was twice attacked by the British without success. It was the station from which were fitted out the expeditions against Toronto, Fort George, etc., and the disastrous enterprise of General Wilkinson in 1813.

A prominent and attractive relic of the war at Sacket's Harbor for many years was the hull of the frigate *New Orleans*, which had a keel of 187 feet, beam 56 feet, hold 30 feet and a measurement of 3,200 tons. She was pierced for 110 guns, and could have carried 120. The vessel was commenced by the United States Government to match the *St. Lawrence*, a three-deck man-of-war of 120 guns, built by the British, but the *New Orleans* was not completed when the war closed, and was never launched. The hull was covered by a house and preserved at considerable expense for many years. The *Chippewa*, a vessel of like size, had been commenced at Storr's Harbor, further up the bay, but had not advanced so far as the *New Orleans* when peace was declared.

The first appropriation for the improvement of Sacket's Harbor was made in 1826 and was for \$3,000.

The harbor at Sacket's Harbor is formed and preserved by a tongue of land known as Shiphouse Point, which projects about 800 feet into the water of Black River bay. During the years of 1826 and 1828, inclusive, there was expended the sum of \$6,000 in deepening this harbor, and when its improvement was resumed in 1882 its use was limited to vessels drawing from six to nine feet of water.

The project adopted in 1882, which was from a survey made in 1881, was to deepen the harbor to twelve feet. In 1884 the project was again extended to build a wall of stone in about six feet of water parallel with the beach at Shiphouse Point to arrest its erosion; but by the authority of the

chief engineer this project was modified in 1896 to build two low groins of stone perpendicular to the line of beach, instead of a wall parallel with it. In 1897 an area of about five acres in the harbor was dredged to the depth of twelve feet.

To June 30, 1898, \$20,000 had been expended, the total appropriations leaving no balance. Appropriations: 1826, \$3,000; 1828, \$3,000; 1882, \$7,000; 1888, \$2,000; 1894, \$5,000.

The traffic of 1896 included 8,591 net tons, an increase of 109 tons over 1895; of this total 5,600 tons were coal and 1,780 tons hay. The traffic in 1897 was about 5,000 tons.

*Oswego* is the most important city on the United States side of Lake Ontario. It abounds in stirring historical associations. As early as 1615 Champlain in his first trip across Lake Ontario passed through or near it. Between 1690 and 1696 its site was made the base of operations by Frontenac, Governor of Canada, in his expeditions against the Iroquois. In 1722 Gov. William Burnet, of New York, built a trading house at Oswego, and thereby gave the English their first hold upon the Great Lakes. The following year 57 canoes went from Oswego to Albany with 738 packs of beaver and deer skins. In 1727 Governor Burnet built here a masonry redoubt, loop-holed for musketry, to protect his trading post. It was thirty feet by sixty feet and forty feet high, and was known as Fort Oswego. The French called it Fort Chouaguen and, later, Fort Pepperell. The fort was strengthened, and in 1743 a traveler thus described it: "On the point formed by the entrance of the river stands the fort or trading castle; it is a strong, stone house, encompassed with a stone wall, near twenty feet high and 120 paces round, built of large, square stones, very curious for their softness. I cut my name in it with my knife. The town consisted of 70 log houses, of which one-half are in a row near the river, the other half opposite to them." Parkman says that no English establishment on the continent was of such ill omen to the French as Oswego. Fort Ontario was built here in October, 1755, a substantial forti-



fication, 180 feet on each side, built of pickets 18 inches in diameter, rising nine feet from the ground, and surrounded by a ditch eighteen feet wide and eight feet deep. A third and inferior fort, called Fort George, was also built. In August, 1756, soon after hostilities opened, Oswego, containing a force of 1,800 men, divided among the three forts, was invested by Montcalm with a force variously estimated at from 3,000 to 5,000 men. The post soon capitulated and 1,500 men, seven vessels, 139 guns and large stores of provisions and ammunition were captured. Among the captives was Francis Lewis, afterward a signer of the Declaration of Independence. The forts were demolished, and the loss in England was regarded as a national calamity. The French evacuated Oswego soon after, and the English crept back into possession. In 1758 General Bradstreet crossed Lake Ontario from Oswego with 3,000 men, and captured Fort Frontenac, now Kingston. The following year the French attempted in vain to retake Oswego. In that year Fort Ontario was rebuilt, and became the English base of operations against Montreal. After the peace of 1760, the post of Oswego was garrisoned by a regiment of Highlanders.

During the Revolutionary war two grand councils of the red men were conducted by the British at Oswego to organize and lead them against the Colonists. In July, 1777, Colonel St. Leger set forth from Oswego with 2,000 Canadians and Indians, and besieged Fort Schuyler on the Great Carry. There was fought the bloody battle of Oriskany, and the relief of Arnold turned the tide against the British, who fled to Oswego and thence dispersed, leaving Fort Ontario unoccupied. Between 1780 and 1782 the British reoccupied and partly rebuilt the fort. Perhaps the last military movement of the Revolution was directed against Fort Ontario. Washington recognizing its importance in January, 1783, before news of the signing of the treaty of peace had been received, instructed Colonel Willett, with a small force to surprise and capture Fort Ontario. Owing to the snow and the severity of the weather, the expedition was

unsuccessful. Willett reached the fort, but failed to surprise it.

Fort Ontario remained garrisoned by the British until July, 1796, when the detachment there stationed gave possession to American troops. For some time prior to 1812 Fort Ontario was unoccupied. A British fleet of eight vessels, carrying 220 guns and 3,000 men, appeared before Oswego May 5, 1814, and bombarded it. The post fell the following day. The British leveled the fortifications and abandoned the place. In 1839 Congress voted an appropriation to restore the fort, and since then Fort Ontario was continuously garrisoned by United States troops until 1894, when the historic fort was abandoned.

In 1840 Oswego contained about 600 dwellings. The coastwise imports at Oswego in 1851 amounted to \$6,083,036; coastwise exports, \$11,471,071; foreign commerce, \$4,992,223; total, \$22,546,330.

Oswego harbor comprises the inner harbor, the outer harbor, and the Oswego river up to the lower end of the basin of the Oswego & Erie canal at the first bridge, 3,200 feet above the entrance through the inner breakwater. The first appropriation, which was of only \$200, looking toward the improvement of this harbor, was made March 20, 1826, and the improvement was begun in 1827, a further appropriation having been made in 1827 of \$33,349. At this time the harbor was an open roadstead between widely receding shores at the mouth of Oswego river, which latter could be entered only by vessels of light draft.

The project adopted that year was to build a breakwater of timber cribs filled with stone, on a chord joining the receding shores, inclosing about forty acres, and consisting of an arm 720 feet long from the east and 1,430 feet long from the west shore, and separated by an opening of 350 feet forming the entrance to the harbor and river. This project was afterward enlarged at different times, in 1896, to build an east breakwater of 1,435 feet long, also by the rebuilding of about 100 feet of breakwater to reduce to about 75 feet the width of the breach 175 feet long which had been made in the outer breakwater by a

storm in 1884. The amount expended on this improvement to June 30, 1898, was \$1,882,192.

The commerce of the port of Oswego is quite extensive. In 1895 it amounted to about \$4,300,000, of which seventy-two per cent. was coal shipped from the port in vessels, and eighteen per cent. was lumber received, and five per cent. general merchandise received and shipped, all by vessel.

The dredging done in this harbor, previous to 1881, was by private enterprise and by the city of Oswego. In 1847 there was some work of this kind done in dredging a gravel bar which had formed across the channel 1,000 feet inside the inner harbor, and in 1855 the city of Oswego deepened the channel near the head of the upper islands.

Under a provision of the River-and-Harbor Act of March 3, 1881, dredging was commenced in the river by the Government of the United States.

The outer harbor has a rocky and sandy bottom, and consequently has poor holding ground. When vessels are driven from their moorings at the outer breakwater they seek refuge in that part of the river which is being widened and deepened by this rock excavation. This part of the river is much better sheltered, being above the two islands and about 1,800 feet above the entrance through the inner breakwater.

Appropriations.—1826, \$200; 1827, \$33,348; 1828, \$9,583; 1829, \$7,472; 1831, \$22,015; 1832, \$19,000; 1833, \$8,400; 1834, \$30,000; 1836, \$20,000; 1837, \$15,000; 1838, \$46,067; 1844, \$20,000; 1852, \$40,000; 1860, \$30,000; 1864, \$25,000; 1866, \$45,000; 1867, \$60,000; 1868, \$20,000; 1869, \$28,270; 1870, \$50,000; 1871, \$100,000; 1872, \$100,000; 1873, \$100,000; 1874, \$75,000; 1875, \$90,000; 1876, \$90,000; 1878, \$90,000; 1879, \$90,000; 1880, \$90,000; 1881, \$50,000; 1882, \$80,000; 1884, \$80,000; 1886, \$71,250; 1888, \$100,000; 1890, \$30,000; 1892, \$40,000; 1894, \$37,000; 1896, \$60,000. Total, \$1,902,613.

Commercial statistics show for 1896 a total net tonnage of 783,972, an increase of 34,397 tons over 1895. Of this lake traffic 600,335 tons were coal; 131,146 tons, lum-

ber; 31,915 tons, grain; and 13,130 tons, posts and wood.

Arrivals in 1896 were 1,642, registered tonnage, 441,112; departures, 1,637; registered tonnage, 440,936. Of the vessels arriving 663 were American and 979 Canadian. The greatest draft of vessels was 14 feet; greatest registered tonnage of vessels 2,166; greatest load of vessels, 2,032 net tons.

Arrivals in 1897 were 1,520, clearances 1,518, registered tonnage 787,876. The total freight received and shipped in 1897 was 706,805 tons, of which 528,552 tons were coal; 114,426, lumber; 44,101, grain.

At *Sodus Point*, on Great Sodus bay, was a thriving village a half century ago. The settlement had been formed prior to the war of 1812. The British fleet appeared before Sodus June 18, 1813, to capture provisions known to have been stored there, but a regiment of militia, hastily assembled, prevented a landing. The enemy withdrew, but reappeared the following day, when the militia had been discharged. The public stores had in the meantime been removed from the water's edge to the adjacent forest, and the militia, again summoned, saved them from the enemy, who had landed and found the storeroom empty. The fleet moved up the lake the following morning.

The main part of Great Sodus bay is two and one-half miles long, one-half a mile to one mile wide, six to seven fathoms deep, has a muddy bottom, good holding ground, is land-locked from Lake Ontario, and is the most capacious and secure anchorage on its New York shore. It has an arm a mile long and one-quarter of a mile wide, permitting a draft of 14 feet to be carried  $3\frac{1}{2}$  miles from the entrance. The bay was used during the war of 1812 as one of the bases of supply for the army operating on the Niagara frontier.

The Northern Central Railroad Company has a track to the mouth of the bay, where it delivered to vessels, during the calendar year 1895, 42,669 tons of coal, which was 98 per cent of the entire commerce of the bay in tons during the year.

In 1829, when the United States Government began to improve this harbor, its

entrance to Lake Ontario was closed to vessels drawing more than 8 feet of water by a bar that stretched entirely across it at a distance of 1,150 yards.

The project then adopted by the government was to improve this entrance, wide and shallow, as it was, by building from its opposite sides two breakwaters following the crown of the bar until their ends should be about 500 feet apart; and second, from the approaching ends of the breakwaters to build into the lake two parallel piers to form and confine the entrance channel through the bar.

The construction of these four structures under this project of 1829 was begun that year, and completed in 1835. The two breakwaters, having a total length of 3,636 feet, were completed in 1834, the east one being 1,436 feet long, and the west one 2,200 feet long, and the ends being 1,473 feet apart. The 2,355 feet of piers completed in 1835 embraced an east pier 940 feet long outside the east breakwater, with a return of 150 feet long from the breakwater into the bay, and a west pier 1,265 feet long extending 200 feet further into the lake than the east pier. In October, 1829, the depth of water on the bar was reported to be only eight feet.

In 1881 the project was to obtain a depth of water by dredging to 12 feet, and to protect this depth by extending the piers to the 12-foot curve in the lake. In 1882, when \$361,772 had been expended, the project was to obtain a channel 15 feet deep and to extend the two piers an aggregate of 1,100 feet to the 15-foot curve, at an estimated cost of \$100,000, so as to provide for vessels the draft which could pass through the Welland canal, when deepened to 14 feet, which that canal attained in 1887.

Up to June 30, 1898, there had been expended upon this improvement \$474,250, and at that date the channel had shoaled to about 14½ feet.

Appropriations:—1828, \$400; 1829, \$12,500; 1829, \$15,280; 1831, \$17,450; 1832, \$17,000; 1833, \$15,000; 1834, \$15,000; 1835, \$11,790; 1836, \$12,600; 1837, \$12,000; 1838, \$10,000; 1844, \$5,000; 1852,

\$10,000; 1866, \$53,151; 1867, \$80,000; 1870, \$5,000; 1872, \$15,000; 1874, \$15,000; 1875, \$10,000; 1876, \$5,000; 1878, \$5,000; 1879, \$2,000; 1880, \$3,000; 1881, \$5,000; 1882, \$25,000; 1884, \$10,000; 1886, \$16,875; 1888, \$24,000; 1890, \$10,000; 1892, \$15,000; 1894, \$15,000; 1896, \$8,000. Total—\$475,647.

Coal is transported from various Pennsylvania mines to Great Sodus, whence, in 1896, 34,540 tons were shipped by lake, 46 per cent. down the St. Lawrence river and 54 per cent. to Canadian ports on Lake Ontario.

For the calendar year 1896, 180 vessels with a tonnage of 24,387 arrived at Great Sodus harbor; of these 113 were American and 67 Canadian. Total departures were 181, with a tonnage of 23,463.

For 1897, 220 vessels arrived, and the same number cleared; total registered tonnage, 71,814. The freight received and shipped amounted to 53,548 tons, of which 53,129 tons consisted of coal.

*Fair Haven*, situated on Little Sodus bay, contains a population of about 700. It is the northern terminus of the Southern Central railroad, and does considerable shipping of coal and grain, and receives lumber and other articles by lake. In 1828 Congress appropriated \$400 for a survey of the shores of Lake Ontario between the Genesee and Oswego rivers. Little Sodus was deemed of secondary importance, but its improvement was recommended. The entrance of the bay was then closed by a gravelly beach except at two narrow openings, and in 1845 when a re-survey was made the same conditions prevailed. The first government appropriation of \$10,000, was made in 1852, and some pier work was made by the Ontario Bay Harbor Improvement Company a few years later. The present lake traffic is due chiefly to the Southern Central railroad, a coal line, completed in 1869.

*Little Sodus Bay Harbor*.—This bay extends two miles in length due north from the shore of Lake Ontario, has a greatest and least width of five-eighths and one-fourth of a mile, bold shores, a clay bottom, and is from four to six fathoms deep.



seven miles below the city of Rochester. The United States Government began the work of improvement in this harbor in 1829. At that time there was a bar extending nearly half a mile into the lake, through which ran a channel allowing vessels to pass, drawing eight feet of water. But this channel was so tortuous that it could not be followed except in fair weather.

The project adopted by the government then was to construct parallel piers 360 feet apart, and scour a channel through the bar by confining and directing the action of the spring freshets. By 1834 a depth of 11 feet of water was obtained. By 1863 the work was in bad condition, but from 1864 to 1871 it was restored, and a depth obtained of 12 feet at extreme low water. The amount of money expended up to this time was \$127,784.

In 1882, on account of the deepening of Welland canal, the project was extended to obtain a depth of 15 feet of water at extreme low water in the lake by extending the two piers an aggregate length of 3,250 feet to the 15-foot curve, and by dredging.

In 1896, the piers having been extended a total of 1,444 feet, the project was amended to preserve the depth by dredging without further extension of the piers, at least for the present, and in 1897 it was altered to obtain a depth of 16 feet at extreme low water. The amount expended to June 30, 1896, was \$520,854. At that date the depth in the channel across the bar between the piers and in advance of them was 14 feet at extreme low water.

With the amount expended during the fiscal year ending June 30, 1897, the depth has not been increased, but the depth of 14 feet has been preserved.

Besides the transport of coal the passenger transport in and out of the harbor amounts annually to about 50,000 excursionists from the city of Rochester, situated on the river at the crest of the Genesee Falls, about seven miles from the mouth, with which it is connected by a line of electric cars on each bank.

The approach to Charlotte harbor is so well protected under the lee of Braddock Point in the prevailing northwesterly winds

and gales, it is a very good harbor of refuge near the middle of the American shore of the lake, or about midway between the Niagara and St. Lawrence rivers. A survey made in January, 1898, showed that there was a channel 16 feet deep, at zero of the Oswego gauge, 125 feet wide. Another survey made June 28, 1898, shows that there is now a channel 150 feet wide and 15½ feet deep at same stage.

Appropriations: 1828, \$300; 1829, \$13,335; 1831, \$16,670; 1832, \$16,000; 1833, \$15,000; 1834, \$20,000; 1835, \$2,390; 1836, \$20,000; 1837, \$10,000; 1838, \$25,000; 1844, \$10,000; 1852, \$20,000; 1853, \$176; 1864, \$25,000; 1866, \$75,607; 1868, \$1,100; 1869, \$1,000; 1870, \$12,000; 1871, \$10,000; 1875, \$5,000; 1878, \$1,000; 1879, \$1,000; 1880, \$5,000; 1881, \$2,500; 1882, \$35,000; 1884, \$20,000; 1886, \$26,250; 1888, \$45,000; 1890, \$25,000; 1892, \$25,000; 1894, \$15,000; 1896, \$12,000. Total—\$521,328.

The total commerce at this port during the year 1897 was 385,981 tons, of which 372,713 tons were coal brought by rail from the mines in Pennsylvania to Charlotte; 81.1 per cent. of it was shipped down the St. Lawrence, 17.3 per cent. to Canadian ports on Lake Ontario, and 1.6 per cent. through the Welland canal.

*Oak Orchard* harbor is at the mouth of Oak Orchard creek. The original plan for its improvement was adopted in 1836, and consisted in constructing two breakwaters, one on each side of the creek, in such a way as to reduce its width to 200 feet, the channel extending from the 12-foot curve in the lake to the same depth in the creek. In 1892 the piers extended to the 12-foot curve in the lake, and the shore protection was 91 feet long. The channel had a depth of 13.5 feet at mean lake level for the whole of the width between the piers with the exception of 10 feet alongside of each pier. Nothing has been done here since then except to keep the works in repair. The entire sum appropriated is \$205,000.

*Olcott* harbor is at the mouth of Eighteen-mile creek. The first project of improvement of this harbor was submitted in 1846, but it was not executed. The next

When the United States began to improve the entrance to this bay, in 1854, the bar of sand and gravel extending across was cut through by a narrow channel only fifteen inches deep. When the improvement of this bay was begun, it was with the view of deepening the harbor by building two parallel piers commencing on the shore and extending into the lake to a depth of fifteen feet of water.

In 1854 there was built 240 feet of the west pier. A channel of eight feet depth was also excavated between the bay and the lake. It is believed that the improvement commenced with the appropriation of \$10,000 made in 1852; but in 1856 the work was suspended from want of funds, and it was not resumed until 1867, in which year the project was extended so as to extend the west pier to 15 feet of water, to build a short east pier, to dredge a channel to the depth of 12 feet, and to close the openings between the shore and the piers.

In 1882 the project was again enlarged to obtain a depth of 15 feet at the extreme low water by extending both piers a total length of 1,500 feet to the 15-foot curve, at a total cost of \$80,000. Up to June 30, 1898, there had been expended on this improvement \$329,188, at which date the minimum depth in the channel was 15 feet at extreme low water.

Appropriations:—1852, \$10,000; 1864, \$4,012; 1866, \$33,840; 1867, \$50,000; 1869, \$1,500; 1870, \$5,000; 1871, \$15,000; 1872, \$15,000; 1873, \$15,000; 1874, \$15,000; 1875, \$10,000; 1876, \$5,000; 1878, \$10,000; 1879, \$5,000; 1880, \$20,000; 1881, \$20,000; 1882, \$25,000; 1884, \$10,000; 1886, \$12,500; 1888, \$16,000; 1890, \$13,000; 1892, \$6,000; 1894, \$8,000; 1896, \$8,000. Total, \$332,942.

The lake traffic for 1896 was 65,418 tons, an increase of 1,710 tons over 1895. The coal tonnage was 63,501, or 97 per cent. During 1896 the total arrivals were 205; registered tonnage, 42,174; departures, 206; registered tonnage, 42,082; greatest draft of vessel, 12 feet; greatest registered tonnage, 567; greatest load of vessel, 882 net tons.

Arrivals at Little Sodus bay in 1897

were 258; clearances, 259; total registered tonnage, 110,876. Freight received and shipped, 68,888 tons, of which 67,950 tons were coal.

*Pultneyville* is a small village of about 500 people, located on the shore of Lake Ontario in Wayne county. It was attacked by the British squadron May 15, 1814. Peaceable surrender was demanded, and as the defensive forces were inadequate the reply sent offered to surrender 100 barrels of flour stored in a building at the water's edge. The enemy was proceeding to further depredations, when they were fired upon by the Americans in the adjoining woods. The British shelled the village for a short time and withdrew.

Pultneyville harbor comprises Salmon creek, Wayne county, N. Y., and a cove at its outlet into Lake Ontario, and is sheltered by a point of land on the west, but is exposed to the north and east. The creek is from 40 to 60 feet wide, and is navigable for small light-draft boats for about 900 feet from its mouth, where it ends abruptly in a small brook. The village of Pultneyville stands on the shore of the cove.

The United States Government began the work of improvement here in 1871. At that time there had been built by private enterprise a pier 171 feet long, and there had been some dredging done, the amount of money expended being \$30,000.

The project adopted by the government was to extend the pier already built 470 feet, so as to form a west pier 641 feet long; to build an east pier 425 feet long 200 feet from the north arm of the west pier, to shelter and preserve the approach to the cove and creek, and to dredge between the piers a channel 10 feet deep.

The amount expended on this improvement up to the close of the fiscal year ending June 30, 1897, was \$77,000.

Appropriations: 1870, \$5,000; 1871, \$5,000; 1872, \$10,000; 1873, \$10,000; 1874, \$10,000; 1875, \$10,000; 1876, \$3,000; 1878, \$5,000; 1879, \$4,000; 1880, \$3,000; 1881, \$2,000; 1882, \$4,000; 1890, \$2,000; 1892, \$1,000; 1894, \$1,500; 1896, \$1,500.

*Charlotte* harbor is a safe and commodious one at the mouth of Genesee river,

project was adopted in 1866, and has since been substantially in vogue. It provided for two piers extending into the lake with a channel between them of about 200 feet in width and nearly parallel with each other. The east pier was 850 feet long, and the west one 873 feet long. Between the piers the channel was 180 feet wide in 1892, the limiting lines being ten feet from the pier on each side. The width decreased to 98 feet at the Main-street bridge. In 1894 the channel was in good condition, and nothing has been done since that time, except to keep the works in repair. The total amount appropriated up to September 19, 1890, was \$163,000.

*Wilson* harbor is at the mouth of Twelve-mile creek, a small stream flowing into Lake Ontario. In its original condition there was a depth of water inside the mouth sufficient for ordinary sized lake craft, but it was closed by a bar upon which there was ordinarily but about one foot of water.

The present project was submitted in 1873, and proposed to extend piers to the 12-foot curve in Lake Ontario, and to dredge a channel 12 feet deep between the piers and from the shore end of the piers to the deep water in the creek. The original estimated cost of the work as made in 1873 was \$90,000. This was increased in 1877 to \$100,000.

There had been built two piers at the harbor entrance, and a shore protection. The piers are prolongations of piers built by private parties in 1846. At present the west pier is 832 feet long and the east pier 850 feet long. There is also a shore protection for the east pier. This is 360 feet long.

The channel is dredged to a minimum depth of about 12 feet. The total expenditures to June 30, 1898, was \$69,963; appropriations have been \$70,000.

The commerce of *Wilson* by water is small, amounting in 1896 to 1,296 tons, chiefly lumber, and in 1897, to the single item of "beer, 12 dozen bottles." In 1889 126 vessels of 27,996 registered tonnage arrived; in 1896, 42 vessels, tonnage 9,850; 1897, 14 vessels (passenger steamers), tonnage 3,840.

*Youngstown* is a small port of delivery

of about 500 inhabitants on the Niagara river, about one mile above Lake Ontario.

#### LAKE ERIE HARBORS.

##### UNITED STATES SIDE.

Lake Erie harbors, on the American side, are among the most highly developed on the chain of Great Lakes. They are the receiving ports for most of the immense ore traffic, and also for the grain trade of the Northwest. They are important factors in the lumber trade, and practically all the coal traffic on the lakes originates here. The cities along the southern shores are prosperous and growing rapidly.

*Port Day* is the inlet to the old hydraulic power canal at Niagara Falls. It has never been a port of commerce, owing to shallow water and its proximity to the rapids at the head of Niagara Falls.

From *Port Day* up the river in front of Niagara Falls City is very shallow, and has a rock bed until *Connors* island is reached. Between *Connors* island and the main shore is a snug little harbor of about five acres, with a depth of 12 feet at mean river stage, and with a maximum depth of about 18 feet.

The project for the improvement of the Niagara river from *Tonawanda* to *Port Day*, as it now stands, is to make a channel 200 feet wide and not less than 12 feet depth at mean water level, by excavating through the shoal at the head of *Connors* island and through the shoal above *Cayuga* island.

The total cost of the work contemplated by the project will be \$95,000. Up to June 30, 1898, there had been expended on the project \$44,389. At this time the channel through the shoal at the head of *Connors* island had been completed to its full width of 200 feet, and a depth of 12 feet or more at mean river level. Total appropriations are \$45,000.

There is practically no use made of this channel of the Niagara river below *Tonawanda*, except by excursion boats running to resorts along the shore of *Grand* island.

At Niagara Falls 19 steamers and tugs arrived in 1897 with a tonnage of 964. At *Schlosser's* dock there were no receipts by



river in 1897. At the foot of Grand island there were unloaded from vessels and rafted to Port Day 36,000 tons of pulpwood in 1896, and 70,764 in 1897.

*Tonawanda.*—The first settler in the vicinity of this port was Henry Anguish, who located here in 1808. Improvement was slow. The construction of the Erie canal in 1823 gave the place a start, for about that year a company of Buffalonians laid out a town here. In 1827 there were three small stores doing business at Tonawanda. It is now an ore-receiving port of considerable importance, and in 1890 had a population of 7,145.

Originally the navigation of Niagara river was obstructed by several reefs and hummocks, which materially limited the draft of vessels. The water in the harbor between Tonawanda island and the main shore was shoal, and the river had in some places a rapid current.

The object of the improvement undertaken early in the history of navigation on this river was to provide a navigable channel from the head of Niagara river at Lake Erie to the north end of Tonawanda harbor, and to dredge that harbor to such a depth that vessels drawing 16 feet of water could enter it.

The project adopted in 1888 was to remove obstructions so as to make a channel 400 feet wide and 18 feet deep, which included work at the following places: 1.—On the Horse Shoe reef at the entrance to Niagara river. 2.—On the shoal at the head of Strawberry island. 3.—At a few shoal places abreast of the lower end of Rattlesnake island. 4.—The full width of the river between Tonawanda island and the mainland, along the entire front of Tonawanda.

By the terms of the River-and-Harbor Act of June 3, 1896, the project was extended so as to include the river to the north line of the village of North Tonawanda. The cost of the work, as estimated in 1891, was \$1,152,988, but the present estimate is considerably less. Appropriations have been \$350,000, all of which has been expended.

The results of operations during the

year ending June 30, 1897, were the completion of the 18-foot channel for a width of 180 feet through the whole length of the Strawberry island reef; the excavation of a channel 18 feet deep and 200 feet wide through the shoal at the foot of Tonawanda island, and the removal of the most troublesome ridges from Tonawanda harbor.

The commerce of Tonawanda is large and increasing, and it is in a high degree desirable that all impediments be removed which interfere with vessels drawing 16 feet of water reaching the docks. An appropriation of \$250,000 is estimated as the amount which can profitably be expended during the next fiscal year under the project.

Receipts by lake at Tonawanda in recent years have been as follows: 1890, 2,001,209 tons; 1891, 901,997 tons; 1892, 996,370 tons; 1893, 860,142 tons; 1894, 838,267 tons; 1895, 894,408 tons; 1896, 1,015,396 tons; 1897, 1,242,495 tons. Lumber was the chief import, with iron ore second in importance. Of the receipts in 1897, lumber comprised 1,014,232 tons; iron ore, 172,187 tons. Shipments in 1897 were only 1,628 tons. In 1896 1,311 vessels entered, and 1,281 cleared; in 1897, 1,355 entered, and 1,373 cleared; total registered tonnage, 1,116,559.

*Black Rock.*—In 1800 the sole inhabitant at Black Rock was an Irishman named O'Niel, who kept the ferry and charged \$2.50 for the ferriage. Porter, Barlow & Co. built a store here a little later. There were only a few houses at Black Rock during the war of 1812, but they were shelled by British batteries, and in December, 1813, burned by the enemy. It was in this vicinity that Lieutenant Elliott, in October, 1812, captured the Adams and Caledonia. Here in Scajaquada creek, were secreted four vessels which later formed part of Perry's fleet. Fort Erie stood opposite Black Rock, and stirring incidents were frequent in that locality during the war of 1812. The steamer Walk-in-the-Water was built at Black Rock in 1818, and her owners had to use the "horn breeze," or a dozen yoke of oxen, to get her up the rapids. Black Rock is memorable for its contest

with Buffalo to secure the terminus of the Erie canal. It had at that time the only harbor at the foot of Lake Erie, and flourished for ten years after the war of 1812. It was, in 1853, included in the city of Buffalo.

*Buffalo* harbor was the first constructed on the Great Lakes, and was at first built by private enterprise. The village was made a port of entry by Act of Congress March 3, 1805. In the spring of 1820, when Buffalo had less than 2,000 inhabitants, when there were in reality no harbor facilities, and when there was not yet sufficient business on the lakes to be dignified by the name of commerce, a plan was projected by Hon. Samuel Wilkeson for the improvement of the harbor. In order to raise the necessary funds for this improvement a subscription paper was circulated among the citizens, to which was finally appended the names of sixty-two subscribers, the total amount subscribed being \$1,361. The largest sum subscribed by any one individual was \$110, and there were four others who subscribed not less than \$100. The entire sum collected was but \$110.

This small sum of money, no matter how economically expended, could not effect much of a change in the condition of the mouth of Buffalo creek; but it showed that the people were alive to the necessity of doing something to lead to the building up a city, and that small beginning has resulted in one of the largest commercial cities in the world. When it was decided by the canal commissioners to locate the western terminus of the canal at Buffalo creek, there were only three or four small vessels owned in Buffalo, and these three or four received and discharged their cargoes at Black Rock. A better harbor was, therefore, a necessity to the terminus of the canal, for, unless a harbor at the mouth of Buffalo creek were constructed, that terminus might be located at Black Rock, and this would destroy Buffalo's chances of becoming a port of entry or a city, at all, instead of becoming the port for commerce at the lower end of Lake Erie.

The people of Buffalo therefore resolved on having a harbor, and made application

to the Legislature at Albany for a survey of the mouth of Buffalo creek. On April 10, 1818, an Act was passed authorizing and directing the supervisors of Niagara county to pay \$3 per day to a surveyor to survey the mouth of this creek. This survey was made gratuitously in the following summer by Hon. William Peacock. Then a public meeting was held to consider the question as to how the money was to be raised. This meeting sent Hon. Charles Townsend to Albany to obtain a loan, and on April 17, 1819, an Act was passed authorizing a loan to certain parties in Buffalo of \$12,000 for twelve years, to be secured by bond and mortgage in double the amount, the State reserving the right to cancel the securities, and to take possession of the harbor when it should be completed.

The next difficulty was to secure signatures to the securities. Every one refused to execute them except Judge Charles Townsend, Judge Oliver Forward and Judge Samuel Wilkeson, each of whom gave his several bond and mortgage for \$8,000. An "experienced harbor builder" was employed at \$50 per month, a contract was made for 100 cords of flint stone at \$5 per cord, and 400 hemlock piles from twenty to thirty feet long at 31 cents each. An agent was dispatched to the nearest furnace, which was in Portage county, Ohio, for a hammer and machinery for a pile-driver and scow.

The engineer that was receiving \$50 per month was discharged on the ground of incompetency, and as no one else could be found who had any practical experience in such matter, Judge Samuel Wilkeson was at last prevailed upon to take charge of the work. The harbor was therefore constructed under his supervision, and completed as well as could be expected with the money at command.

An incident in connection with this work is worthy of note: On the 7th of September, 1820, after the timber work had been completed, and while the pier was but partially filled with stone, two vessels came into the lee of the pier and made themselves fast thereto. Toward evening a storm appeared in the horizon, and while the superintendent of the construction of the

harbor and the captains of the two vessels were considering the question as to whether the pier was in danger from the two vessels being fast to it, the storm came on, and it was agreed that if necessary to save the pier the vessels should be cut loose and permitted to drift upon the beach. The pier and the vessels remained uninjured, and this was regarded as no mean test as to the strength of the work. The pier then extended out into the lake about fifty rods, and was afterward entirely filled with stone. The names of those two vessels appears not to have been preserved, but the names of their captains were Austin and Fox.

The harbor was constructed in 221 days, not including Sundays, as the laborers rested on that day, and when completed for that season it was about eighty rods in length. At its extremity the water was twelve feet deep. It was begun, carried forward to completion and completed principally by three private individuals, though they received material assistance from George Coit.

Even after the completion of this work the mouth of the creek was still obstructed by sand, and vessels could not get in and out without running aground. The schooner *Hannah*, of 49 tons, could not get over the bar at the mouth of the harbor, and had to unload her cargo, pass over the bar, anchor outside in the lake, and there be reloaded. This, however, was the only vessel under 50 tons that was compelled to discharge her cargo in order to get out of the harbor; though the schooner *Beaver*, of 37 tons, stuck fast on the bar, and remained there for some time before being got off; the schooner *Red Jacket*, of 53 tons, remained thus fast for about half a day, and the schooner *Erie*, of 78 tons, was on the bar for twenty-four hours.

All of these difficulties were to the people of Black Rock unimpeachable evidence that a harbor could not be made at the mouth of Buffalo creek.

Buffalo and Black Rock were strong rivals at that time. In February, 1822, the canal commissioners resolved to carry the canal to the mouth of Buffalo creek, the Legislature having made the loan to citizens

of Buffalo to enable them to construct a harbor. This resolution, however, did not touch the question of harbors, the commissioners having no authority over matters of that kind. In April of this year the State Legislature relinquished all claim to the \$12,000 loan provided the people of Buffalo should construct their harbor by January 1, 1824, and the Legislature also gave the canal commissioners discretionary power to contract with the people of Black Rock for a much more spacious and splendid harbor. The commissioners, therefore, advised the people of Black Rock to erect a portion of the mole required to raise the water in the river sufficiently to form a harbor, in order to test the question as to whether it would withstand the ice in the winter time, and, in case of success, to recommend to the Legislature the construction of the harbor, or the refunding of the cost of the experiment.

In October, 1824, during a severe storm, several of the cribs of the Black Rock pier were raised by the force of the waters and carried off down stream, leaving a break of about eighty feet. This misfortune seemed to prove that the work was not stable, and could not be depended upon. It was largely on account of this break in the pier that the attempt to build a harbor at Black Rock was finally abandoned.

But it took a long time and much hard labor to so clear the mouth of Buffalo creek that vessels could enter and leave without difficulty. It was the knowledge of this fact that in 1822 led the owners of the steamer *Superior* to hesitate about building her within the harbor at Buffalo, and they were only induced to do so by the guarantee on the part of prominent citizens of this place that they should be paid the sum of \$150 per day for every day that she was delayed beyond the first of May, provided she should be ready to leave the harbor on that day. The *Superior* did get out of the harbor without difficulty when empty, but after coming back and taking on her load of passengers for an excursion on the lake, she had considerable difficulty in getting over the bar.

Since 1826 this harbor has been very greatly improved by the United States Gov-



ernment. At first it was determined to construct piers on the north and south sides of Buffalo creek, and the work has been so carried forward that at the present time the water in the creek for a mile from its mouth is from 12 to 14 feet deep, and its average width is 200 feet. The harbor is protected by a substantial stone pier and sea wall jutting out into the lake, and at the end of the pier is a lighthouse 46 feet high and 20 feet in diameter.

There is also a ship canal 700 yards long and 80 feet wide and 13 feet deep, running nearly parallel with the creek, and nearly midway between the creek and the lake.

The works projected by the United States Government for the improvement of this harbor consist of a masonry sea wall along the lake shore for nearly a mile, running south from the shore end of the south pier, and a channel pier of about 650 feet in length.

The great storm of October 18, 1844, wrought great injury to the south pier, and it became necessary to rebuild the parapet wall. The old wall was but two feet thick. In 1845 it was determined to rebuild in a much more substantial manner. The new wall was of heavy stone averaging four feet in length, and weighing from one to three tons, dressed on the bottoms and joints and having a rough face, and they were laid in hydraulic cement. This wall is eight feet thick at the bottom and gradually becomes thinner until it is only four feet thick at the top, and was crowned by a heavy coping one foot thick.

This work was begun in 1845, suspended in 1846, and resumed in 1853, an appropriation having been made of \$14,000 in 1852. During the years 1853 and 1854, there were constructed about 1,000 feet of exterior slope, averaging twelve feet, the top being covered by a broad flagging, over 400 feet of parapet wall raised 5½ feet being completed. Some 300 feet of the old wall were removed, excavations made and a new wall built, completing the parapet within the appropriation made for this purpose.

Subsequently the government made appropriations for the Buffalo harbor as follows: August 23, 1866, \$100,000; March

2, 1867, \$100,000; May 11, 1869, \$89,000; July 11, 1870, \$80,000, and March 3, 1871, \$100,000.

In 1868 a detached breakwater about 2,500 feet outward into the lake from the lighthouse, and extending south a distance of 4,000 feet, was adopted.

In 1874 it was determined to extend this breakwater to a total length of 7,609 feet, which was completed in 1893. In 1874 it was also proposed to build a shore arm to the breakwater, the inshore end to consist of pile work near shore and crib work in deeper water. Upon reaching the 16-foot contour line in the lake this shore arm was planned to continue in a direction making an angle of about 45 degrees with the shore and to overlap the south end of breakwater, leaving an opening of 150 feet. In 1886 a project was approved for replacing the superstructure with concrete as fast as it decayed.

In 1895 a new project for improving the harbor was adopted, consisting of the abandonment of the shore arm and the extension of the breakwater to Stony Point, leaving the necessary openings for the convenience of commerce, and also to extend the sand-catch pier to the established pier-head line.

Appropriations made for improving harbor at Buffalo, from May 26, 1826, to the present time have been as follows: 1826, \$15,000; 1828, \$34,206; 1830, \$15,488; 1831, \$12,900; 1832, \$10,300; 1833, \$31,700; 1834, \$20,000; 1838, \$68,500; 1844, \$40,000; 1852, \$14,000; 1853, \$349; 1855, \$452; 1864, \$15,000; 1864, \$37,500; 1866, \$131,000; 1867, \$100,000; 1869, \$89,100; 1870, \$80,000; 1871, \$100,000; 1872, \$75,000; 1873, \$75,000; 1874, \$20,000; 1874, \$75,000; 1875, \$100,000; 1877, \$85,000; 1878, \$80,000; 1879, \$100,000; 1880, \$90,000; 1881, \$90,000; 1882, \$125,000; 1884, \$100,000; 1886, \$112,500; 1888, \$225,000; 1890, \$300,000; 1892, \$300,000; 1894, \$70,000; 1897, \$481,250; 1898, \$489,746; total, \$3,808,991.

The total amount expended by the United States on the improvement of Buffalo harbor up to June 30, 1898, was \$2,896,190, with the result of obtaining and

maintaining a very good harbor. The principal features of the harbor work are a north and south pier at the mouth of Buffalo creek, protecting the entrance to the creek, and Blackwell Ship canal, in which the principal part of the business of the port is done; also an outer breakwater, 7,608 feet long, built of timber and stone. The superstructure on 3,879 feet of this length has been replaced with concrete. A seawall 5,400 feet long was also built along the lake shore south of the harbor entrance, and a sand-catch pier of piles and stone built out from the shore 870 feet long. The maximum draft that can be carried June 30, 1898, at mean low water over the shoalest part of the locality under improvement is 20 feet.

The commerce of Buffalo is enormous. It depends almost entirely upon the work of harbor improvements done by the United States.

By the Sundry Civil Bill of 1897, \$483,000 was appropriated, and was available July 1, 1897, for the extension of the breakwater southeastward to Stony Point, in accordance to the contract which is now in existence, a distance of 12,500 feet. In this extension there are to be two openings, one called the Middle entrance and the other the South Harbor entrance. The work is to be completed by January 1, 1901. The estimated cost is \$1,765,451. The fiscal years ending in 1897 and 1898 must be considered largely as experimental and preparatory periods, and the next two fiscal years ending in 1899 and 1900 as the seasons of greatest activity, when the work will progress in all its branches at the maximum rates.

The lake commerce of Buffalo is phenomenally large. Some details of the traffic are given in other chapters. In 1897 5,374 vessels entered at Buffalo, and 5,404 cleared; total, 10,778; tonnage, 11,299,091, an increase of 245,885 tons over 1896. About 7,500,000 tons of freight are now received each year. Of this 80 per cent., approximately, consists of grain; 10 per cent. ore; 10 per cent. lumber and miscellaneous. Shipments by lake approximate 3,000,000 tons, consisting chiefly

of coal. The total freight received and shipped by lake in 1897 was 10,748,204 tons.

Receipts by lake in 1893 were 6,447,730 tons; 1894, 5,506,402 tons; 1895, 5,581,428 tons; 1896, 6,864,097 tons; 1897, 8,062,151. Of the receipts, 6,517,347 tons consisted of grain, flour, malt and seed products; 787,157 tons iron ore; 550,496 tons lumber and lumber products; 207,150 tons miscellaneous. Shipments by lake in 1897 were 2,686,053 tons, of which 2,234,329 tons were coal.

By canal, receipts of freight at Buffalo, in 1896, were 398,191 tons; in 1897, 377,679 tons. Shipments of freight by canal in 1896 were 1,172,552 tons, and 830,285 tons in 1897.

*Dunkirk*, now a city of over 10,000 inhabitants, was first settled in 1805. Seth Cole was the pioneer. At the home of his widow, at the mouth of the creek, in July, 1812, was stationed a company of militia to protect the small commerce of the lake, salt boats and other small craft occasionally touching here. A salt boat, during the above mentioned month, was chased by a British cruiser, and entered the mouth of the creek. The cruiser anchored 500 yards from shore and lowered a boat with thirteen men to capture the salt boat. It was fired upon by the militia, and put back with a loss of ten men killed and wounded, it was claimed, but that report was never confirmed. A vessel is said to have entered the harbor as early as 1810. In 1818 a company, composed of Isaiah and John Townsend, DeWitt Clinton and others, bought 1,008 acres of land on the site of Dunkirk, surveyed a village, built a wharf and warehouse and made other improvements. The village in 1825 contained 50 people, and in 1830 the population was increased to 1,000. Dunkirk was originally called Chadwick's Bay, after Solomon Chadwick, one of the early settlers. The village was incorporated in 1837. There was considerable traffic here in the early years of the century, but the railroads drew off the trade. Dunkirk is now a manufacturing point of some importance.

*Dunkirk harbor*—The harbor at Dun-

kirk is naturally a simple indentation of the south shore of Lake Erie. It lies between point Gratiot on the west and Battery Point on the east. Between the two points is a distance of about 9,600 feet, and the maximum breadth of the bay behind the line of the two headlands is 3,600 feet. The general natural depth of water in the bay is about 10 feet. The bay is underlaid with rock at an average depth of 15 or 16 feet.

The original project of improvement was adopted in 1827, and provided for the construction of a pier running out from the west shore of the bay, and a detached breakwater parallel with the pier and about 2,000 feet distant from the city. An opening between the two structures provided an entrance to the harbor.

In 1870 a plan was recommended which provided for a detached breakwater 2,860 feet long, of which 2,300 feet was to be nearly parallel with the shore, the other 560 feet to be nearly parallel with the axis of the channel entrance. This breakwater and the pier previously built were to form a harbor, the channel of which was to be enlarged to a width of 170 feet, and made 13 feet deep.

The project adopted by Congress, and provided for by the River-and-Harbor Act of June 3, 1896, consists of completing the breakwater as before planned by the addition of 360 feet to its eastern end, and adding the channel arm 560 feet long.

Appropriations for improving the harbor at Dunkirk from 1827 to the present time have been as follows: 1827, \$3,000; 1828, \$6,000; 1829, \$9,812; 1830, \$1,342; 1831, \$7,102; 1832, \$10,200; 1834, \$4,000; 1835, \$10,988; 1836, \$11,000; 1837, \$15,000; 1838, \$10,000; 1844, \$5,000; 1852, \$30,000; 1867, \$100,000; 1869, \$2,000; 1870, \$25,000; 1871, \$25,000; 1872, \$25,000; 1873, \$48,133; 1874, \$35,000; 1875, \$35,000; 1876, \$18,000; 1879, \$2,500; 1880, \$10,000; 1884, \$10,000; 1886, \$20,000; 1888, \$15,000; 1890, \$20,000; 1892, \$20,000; 1894, \$20,000; 1896, \$10,000; 1897, \$398,258. Total, \$962,337. Expenditures to June 30, 1898, were \$820,518.

The commerce of Dunkirk by water is quite limited at the present time. During

the year 1895 the arrivals and departures of vessels numbered 69, with a total tonnage of 15,650 tons. The receipts by lake were 9,918 tons, of lumber, and there were no shipments. In 1896 arrivals were 21, tonnage 6,080. In 1896 9,968 tons of lumber (5,692,000 feet b. m.) were received. There were no exports. In 1897, 101 vessels arrived and 96 cleared. The registered tonnage was 14,745. Freight received in 1897 amounted to 25,498 tons, of which 10,664 tons were lumber and 14,826 tons stone. There were no shipments in 1897.

Erie is one of the important harbors on Lake Erie, its progress in lake traffic in recent years being rapid. It is also one of the oldest ports on the lakes.

The Bay of Presque Isle, forming the harbor of Erie, is a beautiful body of water about four and one-half miles long and from one and one-fourth to one and one-half miles in width. The long and narrow sand bank which divides it from the lake is known as the peninsula, or in French as Presque Isle, "almost an island." Misery bay is a small sub-division of the bay proper at its northeastern extremity. It was so named by Lieutenant Holdup during the war of 1812, when the vessels of the Lake Erie squadron were anchored there. Here were sunk the Lawrence and the Niagara, of Perry's fleet. The former was raised and taken to the Centennial Exhibition in 1876; the latter still lies at the bottom of the bay on the east side. The peninsula is a low sand formation about six miles long and varying in width from 300 feet at the head, where it joins the mainland, to one and one-half miles at its widest part. It is covered with trees and bushes. Several breaks have occurred through the narrow points, and constant vigilance is exerted by the government to prevent storms from breaking through the narrow neck.

The site of Erie was a prominent spot during the French and English struggle. A fort was erected at Presque Isle by the French in 1753, and another at Le Boeuf (now Waterford). These forts were surrendered to the English in 1760. During Pontiac's war in 1763, both forts fell into the hands of the savages, that at Presque



Isle surrendering June 22, five days after the fall of Le Boeuf. At Presque Isle in August, 1764, General Bradstreet, on his return from Detroit, made a treaty with the Delaware and Shawnee Indians. In April, 1792, a bill for the laying out of a town at Presque Isle was passed by the Legislature of Pennsylvania, but on account of Indian troubles it was not until 1795 that 200 men from Wayne's army landed at Presque Isle under command of Capt. Russell Bissell, and erected two block houses on the bluff overlooking the entrance to the harbor just east of the mouth of Mill creek. The town was laid out the same year and troops remained at the post until 1806. The first vessel launched at Erie was the *Good Intent*, built at the mouth of Mill creek in 1799 by Capt. William Lee, Rufus S. Reed and others. She was sunk at Point Abino in 1806, with all on board. The *Harlequin* was built at Erie in 1800 by Eliphalet Beebe, and was lost the first season with her entire crew. About 1801 the *Wilkinson*, of 65 tons, was owned at Erie, and another early Erie vessel was the schooner *Mary*, of 100 tons, built in 1805.

Erie is memorable for the fitting out of the fleet with which Commodore Perry, in 1813, won the battle of Lake Erie. Here were built, in that year, the sloops of war *Niagara* and *Lawrence*, the schooner-rigged pilot boat *Ariel*, and the gunboats *Porcupine* and *Tigris*. The other five vessels comprising the fleet, the brig *Caledonia*, sloop *Trippe* and schooners *Ohio*, *Amelia* and *Somers* were brought up from Black Rock. The new vessels crossed the bar early in August and on the morning of the 12th sailed up the lake to meet the enemy. Commodore Perry, at a dinner given him by the citizens of Erie, just before his departure, expressed a desire to return a victor or in his shroud. The badly wounded in the battle were taken to Erie, September 23, thirteen days after the battle. Here a portion of the squadron wintered.

The first steamboat launched at Erie was the *William Penn*, of 200 tons, May 18, 1826. She was the sixth on Lake Erie, and was built by the Erie & Chautauqua Steamboat Company. Gen. C. M. Reed built at

Erie the steamboats *Pennsylvania*, in 1832, *Thomas Jefferson*, in 1834, and the *James Madison*, in 1836. The *Madison* is said to have cleared \$30,000 on her first trip. The ill-fated steamboat *Erie* was built here in 1837 and the *Missouri* in 1840, all large, elegant, rapid and popular boats. In 1826 three steamboats and from two to ten schooners entered and cleared from Erie harbor each week. Lake traffic was stimulated in 1845 by the completion of the canal from Erie to the Ohio river. It continued until, by the completion of the Lake Shore road to Toledo in 1853, the tide of emigration was turned.

The United States steamer *Michigan* was built at Erie in 1843-44, hers being the first iron hull ever set afloat on the Great Lakes. Until recently Erie was the station for the United States revenue cutters in service on the lakes. The first cutter was the *Benjamin Rush* of 30 tons, built at Erie, about 1827. The second was the *Erie* of 62 tons, launched in 1833. She was succeeded in 1846, by the iron steamer *Dallas*, which was removed to the Atlantic coast in 1848. Six steam cutters were built in 1857.

The first lighthouse upon the Great Lakes was erected at Erie in 1818 on the bluff overlooking the entrance to the harbor. A new brick structure was built in 1858, and replaced in 1866 by a third building of stone. The light was discontinued in 1880, but restored in 1882.

In its earliest traffic lake freight was landed at Erie on the sand beach near the mouth of Mill creek. Rufus S. Reed, one of the pioneers in the lake trade, constructed the first dock near the foot of *Sassafras* street, which has ever since been known as *Reed's dock*. The pier reached out from the shore to eight feet of water, which was all the depth then required to float any vessel on the lakes. The business at *Reed's dock* was greatly increased by the opening of the Erie Extension canal early in the forties. The opening of the canal led to the building of a series of docks, extending from the foot of State street east and west, later known as the public dock. The water lots, now occupied

by the Anchor line and the Philadelphia & Erie docks, were utilized in 1866 by David Burton & Sons, the pioneer shippers of anthracite coal at Erie. The Anchor line commenced doing business at Erie in 1868 with one small grain elevator. Its business has since grown to great magnitude. At Erie it has forty acres of dock property. The Pittsburg docks, Nos. 1 and 2, were opened in 1865, and soon developed an iron ore and bituminous coal trade. The Carnegie Company operates three wharves, and transacts a large business in iron ore. Several other docks add to the facilities of this port.

The population of Erie in 1820 was 635; in 1830, 1,465; in 1840, 3,412; in 1850, 5,858; in 1860, 9,419; in 1870, 19,646; in 1880, 27,737; in 1890, 40,634.

In its original condition the harbor of Erie was landlocked, the only entrance being to the east; the channel leading in and out was narrow and tortuous, variable in position, and with a depth of only about six feet.

The project for the improvement of the harbor, as originally prepared in 1823, provided for closing the eastern end of the harbor by means of a breakwater, in which should be left an opening 200 feet wide, and for extending to deep water in the lake two parallel piers, one on each side of the opening. This project is substantially in force at the present time, excepting that the piers are 350 feet apart.

The total amount expended upon the work for the improvement, preservation and maintenance of Erie harbor and its entrance to June 30, 1898, was \$915,640.

The results obtained were to establish and maintain a good entrance channel to Erie harbor, fixed in position and of a depth of 18 feet and at least 275 feet wide, and a commodious deep harbor inside.

Appropriations made for improving harbor at Erie from 1823 to the present time: 1823, \$150; 1824, \$20,000; 1826, \$7,000; 1827, \$2,000; 1828, \$6,223; 1829, \$7,390; 1831, \$1,700; 1832, \$4,500; 1833, \$6,000; 1834, \$23,045; 1835, \$5,000; 1836, \$15,122; 1837, \$15,000; 1838, \$30,000; 1844, \$40,000; 1852, \$30,000; 1864, \$15,000; 1866,

\$36,961; 1867, \$25,000; 1868, \$40,000; 1869, \$22,275; 1870, \$20,000; 1871, \$29,000; 1871, \$10,000; 1872, \$15,000; 1874, \$20,000; 1875, \$80,000; 1876, \$40,000; 1878, \$25,000; 1879, \$25,000; 1880, \$25,000; 1881, \$20,000; 1882, \$20,000; 1884, \$50,000; 1886, \$37,500; 1888, \$83,000; 1890, \$40,000; 1891, \$4,716; 1892, \$40,000; 1894, \$10,000; total, \$946,584.

Receipts at Erie by lake in recent years have been as follows: 1891, 917,763 tons; 1892, 1,399,103 tons; 1893, 1,175,732 tons; 1894, 1,240,748 tons; 1895, 1,397,517 tons; 1896, 1,719,785 tons; 1897, 2,422,041 tons. Iron ore receipts increased from 441,669 tons in 1891 to 1,442,756 tons in 1897. Flour and grain constitute most of the remaining receipts. Shipments increased from 756,452 tons in 1891 to 873,910 tons in 1897. The shipments are mainly coal, 70 per cent. of which is anthracite and 30 per cent. bituminous.

Vessels arriving and departing in 1887 were 1,221, with a tonnage of 1,451,767; in 1897, 3,133, with a tonnage of 4,051,984.

Presque Isle Peninsula forms the harbor at Erie, which is a landlocked bay about five miles long and of a maximum width of one and one-half miles. The peninsula is a low sand formation about six miles long, and varying in width from 300 feet at the neck, which unites the main body of the peninsula to the mainland, and is nearly two miles long, to one and one-half miles at its widest part. The preservation of this peninsula is of vital importance to the preservation of Erie harbor, and the preservation of the peninsula resolves itself into the preservation of the neck at the western end of the peninsula.

In a report upon the examination of Erie harbor made in 1885, it was recommended that the neck of this peninsula be protected by a breakwater, and that the movement of sand around the eastern end of the peninsula, which threatened to close the entrance to the harbor, be arrested by the construction of jetties perpendicular to the shore of the peninsula, at an estimated cost of \$173,044.

Work on this project was, in October, 1889, discontinued because it was found

that structures built could not withstand the violence of the storms. In the spring of 1896, a plant growth was started on the more exposed portions of the neck to catch the drifting sand, and thus increase the width and height of the neck, rendering it less liable to a breach from the waves, and to increase its resistance to erosion.

There were planted in 1896 1,000 Carolina poplars, 200 Wisconsin willows, 200 yellow locusts, and 200 Scotch pines, besides grass seed of different kinds. At the close of the fiscal year an examination of the trees planted was made, when it was found that all the Carolina poplars were growing vigorously except six, which had been destroyed by tramps; the locusts were all growing vigorously; the Wisconsin willows were all doing well, except seven that had been destroyed by tramps; but the Scotch pines were not doing so well, fifty-two out of the 200 having died. The experiment was successfully extended in 1897 and in 1898. In the spring of 1898 2,000 honeylocust trees were planted and 200 willow cuttings. The preservation of the neck of the peninsula by the utilization of plant growth is confidently expected, thereby causing the peninsula to become higher and wider.

*Conneaut*, the Lake Erie harbor, which has risen to great importance as an iron ore and coal port during the past year or two, was the Plymouth of the Western Reserve. Here, at the mouth of Conneaut creek, the first surveying party landed July 4, 1796. The party numbered fifty-two, led by Moses Cleveland, agent for the company. The next day a large log building was erected on the sandy beach and named "Stowe Castle" after one of the party. Joshua Stowe, the commissary. The name Conneaut in the Seneca language signifies "many fish," and was originally applied to the river. One of the party, Amzi Atwater, described the spot as a "mere sand beach overgrown with timber, some of it of considerable size." The mouth of the creek was frequently choked up with a sand bar so that no visible harbor appeared for several days. This would only happen when the streams were low and after a high

wind, either down the lake or directly on shore for several days. As soon as the wind had subsided, and the water in the streams had sufficiently risen, they would often cut their way through the bar in a different place and form new channels. Thus the mouths of the streams were continually shifting until the artificial harbor was built.

Judge James Kingsbury arrived soon after the surveying party, and wintered with his family at this place. He was compelled by business to return to New York that fall, and was delayed by illness from rejoining his family. He arrived in the dead of winter to find a child born in his absence, dead from starvation, and his wife almost on the point of death from the same cause. The first permanent settlement was made in Conneaut in 1798. Some thirty Indian cabins were then standing at the mouth of the stream.

In 1846 Conneaut harbor was an important shipping point. It had a pier with a lighthouse upon it, two forwarding houses and eleven dwellings. It was a frequent stopping place for steamers. Its recent growth has been the result of railway traffic. The Nickel Plate railroad shops are located here, and when the Pittsburg, Bessemer & Lake Erie road was completed to the great furnaces of the Carnegie Steel Company, the assurance of an immense ore traffic was possible.

Soon after the first government appropriation for the improvement of Conneaut creek, the marine fraternity began to develop an ambition to make it a ship building center, and in 1830 a small schooner was built and launched under the name of *Farmer*. She was lost during a great freshet or flood in Chicago river. The schooner *New Connecticut* was the next vessel built there, followed by the commercial steamers *Lady of the Lake* and *Conneaut Packet*, schooner *J. B. Skinner*, sloops *Humber* and *Red River*, schooner *North America*, steamers *Wisconsin* and *Constitution*, brigs *Sarah C. Walbridge*, *Lucy A. Blossom* *Banner* (the largest vessel on the lakes at the time), schooners *Dan Marble*, *Telegraph*, *Traveler*, and bark *Stambach*, brig *Belle*, and schooner *J. W.*



Brown, all constructed previous to 1850. Since that year there were many vessels constructed, notably the schooners Nightingale, Snowdrop, brig Greyhound, schooners Mary M. Scott, Henry M. Kinney, scows Seabird and Times, schooner Ann Maria, schooner Zouave, barks Rosenberry, Ogarritta, Monitor, scows Indianola, Tom Swayne, May Guthrie, schooners T. B. Rice, Valentine, Kate Gillett (now the Horace Badger), Conneaut and M. Capron.

Conneaut harbor is at the mouth of Conneaut creek, 13 miles east of Ashtabula harbor, and within a short distance of the boundary line between Ohio and Pennsylvania. It was known early in the century as Conneaut creek, and has, from time to time, received government aid, but developed little business prior to 1892. Originally the channel over the bar was but two feet in depth. The first appropriation was made March 2, 1829, of \$7,500 for the improvement of the navigation of Conneaut creek, "by removing the bar at the mouth of the same." Under this appropriation improvements were commenced, and were continued at intervals until 1880, the amount appropriated and expended during this time being \$112,629. As a result of these improvements the channel increased its depth from two feet to a usual depth of eight feet, and in favorable circumstances the depth was sometimes 11 feet. From 1880 to 1892 the business of the port did not justify further expenditure, and the work already done was permitted to go to decay and ruin.

In 1892 a project was adopted for extending parallel piers 200 feet apart to a depth of 17 feet in the lake, the estimated cost being \$500,000. There had been expended by June 30, 1896, the sum of \$79,819, out of a total of \$120,000 appropriated. During the year 1896 there was completed a part of the east pier 600 feet in length, and an extension 526 feet long was made from the inner end to form a substantial revetment to the channel bank.

The Pittsburg, Shenango & Lake Erie Railroad Company, now the Pittsburg, Bessemer & Lake Erie, has within the past few years made this harbor a terminus on

the lake, and has expended a large amount of money in improving the harbor by dredging and construction, by which means the commerce of the port has largely increased. This harbor is well situated with reference to the transfer of ores by water and rail from the mines to the furnaces, as well as for return freights of coal. This harbor enjoys one great advantage over most others on the south shore of Lake Erie, and that is the water here is more uniformly of the same depth throughout the season than elsewhere, because the high west winds do not lower it here as they do in harbors further to the west.

It was in 1892 that commercial interests again began to develop at Conneaut harbor. Early in the year Capt. Erastus Day, of Cleveland, went there in the interest of the Pittsburg, Bessemer & Lake Erie Railroad Company, and began the work of deepening the channel and building docks. This proved to be a labor of many difficulties as there was no railroad laid to the harbor upon which to transport timber and piles, necessitating the alternative of floating all material to be used down the river by means of raft or scow. Before the close of the season, however, the river was dredged, dock room completed and three Brown hoists erected. On November 3, 1892, the first cargo of ore, 1,130 tons, arrived on the steamer C. J. Kershaw. Since that time, under Captain Day's industry and supervision, Conneaut harbor has been provided with the best modern appliances for the speedy handling of ore, coal and railroad iron, the latter being handled by means of an ingenious patent invented by Captain Day.

The machinery for loading and discharging ore and coal comprise nine Brown hoists, six King hoists and conveyors, twelve hoists of the McMyler fast plant for transferring from vessels into cars, ten whirlers and one coal car dump of an improved type. The railroad company is about to dredge a new slip 1,200 feet long on the east side of the river, and construct docks upon which will be erected twelve additional hoisting and conveying machines, and the river spanned by a railroad bridge at its intersection with

slip No. 1. The new slip will have double berths, beside two thousand feet of dock front on the river.

The railroad from Conneaut to the coal and iron districts near Pittsburg, Penn., has recently been greatly improved, both in curves and grades, and equipped with the patent hopper cars, which greatly add to the speedy transport of ore. It may be said that some of the largest industries in the country are developing Conneaut harbor as a port for the transfer of coal and iron.

Appropriations for improving Conneaut Harbor.—1829, \$7,500; 1830, \$6,135; 1831, \$6,370; 1832, \$7,800; 1836, \$2,500; 1837, \$5,000; 1838, \$8,000; 1844, \$5,000; 1852, \$10,000; 1866, \$20,513; 1867, \$10,000; 1869, \$8,910; 1870, \$6,000; 1873, \$400; 1874, \$1,500; 1875, \$1,000; 1880, \$6,000; 1892, \$40,000; 1894, \$40,000; 1896, \$40,000. Total, \$232,629. Expended to June 30, 1898, \$231,643.

Vessels entering the harbor in 1896 were 582, with a tonnage of 761,634; vessels entering in 1897, 668; tonnage, 939,173. During 1897 560,198 tons of freight were received and 29,700 tons shipped, a total of 589,368, as compared with 443,031 tons for 1896. Of the receipts in 1897 551,417 tons were iron ore, and of the shipments 29,170 tons were coal.

*Ashtabula* harbor.—In the year 1796 a surveying party was sent out from the colony of Connecticut for the purpose of discovering desirable points on Lake Erie for the location of harbors and for early settlement. That was the date when the first craft under the control of white men entered the harbor where the prosperous commercial city of Ashtabula now stands, and sailed up the river. A good report relative to this locality was made by this expedition, but no further decisive steps were taken relative to its improvement for several years. In 1801 Judge Austin, an adventurous frontier settler, sailed into the harbor from Buffalo in a small boat, and located. He was followed a year later by the Rev. Joseph Badger, who, after shoveling a channel through the bar at the mouth of the river, succeeded in landing a boat load of goods, and quite a flourishing settlement soon

sprang up. For the next twenty years small crafts, owned and manned by settlers frequented the port, but there was no general commerce.

Congress, in 1826, made the first appropriation for the improvement of Ashtabula harbor, \$12,000 being the sum granted for that purpose. This was expended under the direction of M. Hubbard, a dike being built and the east pier commenced in the following year. From this time until railroads were built, in 1872, no considerable growth or enterprise attached to Ashtabula, and even the small business of the port declined from 1845 to 1872, and the harbor began to present the appearance of a decaying village. The cause of this decline was the opening of railroads.

In 1853 the Ashtabula & New Lisbon railroad was incorporated and work commenced, but was not opened for traffic until 1873. One year later it was leased to the Pennsylvania Company for ninety-nine years. In 1872 the Lake Shore built the Jamestown and Franklin division from Ashtabula to Oil City and Youngstown, reaching the iron and coal regions so that Ashtabula harbor became the terminus on the lake of two southern railroads almost simultaneously. The effect was instant. The shipping, which had before amounted to little, assumed good proportions, and the harbor began a wondrous growth. The small village of a few hundred inhabitants became a prosperous city of from 12,000 to 14,000.

With the advent of the southern railroads began the receiving of iron ore and the shipping of coal which have since made the harbor famous. The Pennsylvania Company at first built about two hundred feet of docks on the west side of the river and the Lake Shore company the same on the east side. Ore was then discharged from vessels by buckets raised by tackle and horse power, and coal was loaded by use of the wheelbarrow. This process being necessarily slow, vessels were detained, and it was soon found necessary to introduce improvements to facilitate the handling of cargoes. This was done gradually, until Ashtabula harbor possessed the latest improvements for loading and discharging car-

goes of coal and ore, respectively. It is during the past nine years that the harbor has made her great record as a receiving and shipping port.

Ashtabula has never been noted as a shipbuilding port although there are two ship yards located there, the one owned and managed by Capt. John P. Devney, succeeding his father, Capt. James Devney, who died in 1894. The other yard, on the west side of the river, is owned by J. G. Laird & Sons. Both yards do general repair work and are kept comparatively busy, owing to the great amount of tonnage entering and clearing at the harbor. The last vessels built for commerce were launched in 1868, but a number of tugs have been built since then, the last one constructed at Devney's being the Sunol, while Laird launched the William D., in 1892.

Previous to 1826 the natural conditions at the mouth of this creek varied from time to time. In the summer of that year the depth of water over the bar was but two feet, and the rock bottom was nine feet below the surface of the water. Improvements were that year commenced by confining the channel over the bar between piers of timber cribs filled with stone. The appropriation of May 20, 1826, was \$12,000, and was made for removing obstructions at the mouth of Ashtabula creek. The work has since been continued by repairing, extending and modifying as the increase of commerce made necessary. The piers were 168 feet apart.

In 1891 a new and enlarged project was adopted to widen the outer part of the channel 45 feet, so as to make the distance between the piers 213 feet; to extend the piers to a depth of 22 feet in the lake; to remove the rock bottom to a depth of 20 feet, and to rebuild the superstructure of part of the west pier at an estimated cost of \$325,000.

At the end of the fiscal 1897 year work was in progress constructing a section of west breakwater, shore end, 432 feet long and 30 feet wide. The effect of the small section of breakwater, both upon the bar and upon the seas in westerly winds, is already apparent and beneficial, although it was

hardly anticipated that so small an amount by itself would produce any appreciable effects.

Appropriations for improving Ashtabula harbor have been as follows: 1826, \$12,000; 1828, \$2,404; 1829, \$6,940; 1831, \$7,015; 1832, \$3,800; 1833, \$3,400; 1834, \$5,000; 1835, \$7,591; 1837, \$8,000; 1838, \$8,000; 1844, \$5,000; 1852, \$10,000; 1853, \$43; 1866, \$24,709; 1867, \$54,000; 1871, \$15,000; 1872, \$15,000; 1873, \$16,000; 1874, \$35,000; 1875, \$25,000; 1876, \$5,000; 1878, \$12,000; 1879, \$9,000; 1880, \$20,000; 1881, \$20,000; 1882, \$20,000; 1884, \$22,500; 1886, \$30,000; 1888, \$25,000; 1890, \$40,000; 1892, \$70,000; 1894, \$75,000; 1896, \$50,000; total, \$662,402. Expended to June 30, 1898, \$661,147.

During 1897, 1,715 vessels, with a registered tonnage of 2,280,771, arrived at Ashtabula; 1,720, with a tonnage of 2,329,828, departed. Freight received during 1897 was 3,381,107 tons, of which 3,365,699 tons were iron ore. Shipments were 935,564 tons, including 926,904 tons of coal.

The growth of the iron ore traffic at Ashtabula is shown in the chapter devoted to iron ore.

*Madison* dock was a pier built out into the lake in front of the town of Madison, about 18 miles west of Ashtabula and 12 miles east of Fairport, for the shipment of staves, lumber and produce from that neighborhood.

*Fairport* harbor.—The mouth of Grand river, or Kichisibi (big river), as the Indians termed it, is 28 miles southeast by east of Cleveland. At that spot Fairport, one of the great ore depots of Ohio, is located. Fairport was a growing settlement in 1818, and in 1820, in point of size and enterprise, it ranked second to none in the northern part of Ohio, and bid fair to distance its competitors for commercial honors along the shores of Lake Erie in the race for supremacy.

With the lapse of time Fairport became quite an important ship building point, many good vessels having been launched there. It is now the "port of hail" of many of the large vessels owned in Cleve-



land and in other contiguous ports, it is thought, on account of tax considerations.

A few years ago representative ore men of Pittsburg, headed by Henry W. Oliver, a well-known ore dealer, actively engaged in an enterprise to develop the harbor facilities at that port.

Two years later these representatives purchased a valuable tract of land fronting on Grand river, and in 1887 commenced dredging, constructing docks and making other general improvements. They also continued for a number of years in putting up machinery for handling ore and coal.

The "narrow gauge" Painesville & Youngstown railway was, in 1886, rebuilt from Fairport to Niles, a distance of fifty-two miles, with all bridges, trestles, water-tanks and sidetracks, and had a standard-gauge train running between the two points forty-five days after commencing work.

Attention was turned to the making and dredging of an ore and coal slip in 1890. It is 1,000 feet long and 300 feet wide, and with its machinery is considered one of the most convenient slips on the lakes. It is capable of accommodating six vessels at one time. Since its first projection a continuous line of dockage extends from the government pier 6,000 feet inland along the eastern front of the river, at the terminus of which is the slip mentioned above. The company has five sets of Brown hoists on their docks, and can put a rig into a vessel at any point. It has thirty-seven McMyler hoists, two steam shovels, two locomotives, a large machine shop and an electric-light plant—in fact, it is one of the best equipped plants for the purpose on the lakes. A large gas well furnishes light and fuel for the coal dock, which is equipped with six McMyler hoists, besides a patent dumping machine. Their ample dock room for ore makes extra labor unnecessary, and insures good despatch for vessels.

Ore is also handled by the Pennsylvania & Lake Erie Dock Company; and coal by the Pittsburg, Fairport & Northwestern Dock Company, both of which are controlled by Pittsburg capitalists, with their general offices in that city.

Statistics show that since the docks

have been in operation about a million tons of ore and three hundred thousand tons of coal ore handled annually. Coal and ore are not the only industries of this point. On the west side of the river, about one-half mile from its mouth, in Richmond, has been erected a grain elevator of one million bushels capacity, fully equipped with steam and electrical appliances. Adjacent to this, and erected at the same time, are two large freight houses built entirely of steel, each fronting on the river for a distance of 460 to 500 feet. These buildings were erected by the Baltimore and Ohio managers for service in their lake trade. Manufacturing interests are increasing rapidly.

Grand river is navigable for small vessels for a distance of two miles above its mouth. Previous to 1825 the mouth of this river was more or less obstructed by sand bars which occasionally closed the mouth entirely during the summer months when the outflow was small. In 1825 this sand bar was so hard and dry that it was used as a roadway for crossing the river; but in that year plans were made to protect the channel and confine the current by parallel piers of timber work filled with stone extending across the bar.

By Act of Congress of March 3, 1825, an appropriation was made of \$1,000 for "completing the pier at the mouth of Grand river," from which it is inferred that this pier was begun by private enterprise; and from that time on up to July 1, 1892, the plans were modified and extended. At that time a project was adopted to extend the piers out into the lake to a depth of 18 feet. The width between these piers varies from 200 feet at the extreme end of the old piers to 185 feet, which is the general distance they are apart. The construction of a breakwater was authorized in 1896, and since commenced.

The situation of Fairport is such that bars form around and between the piers nearly every spring and fall, and while the amount of material thus collected is not large, yet its removal has to be made when the difficulty of doing so is the greatest, on account of the continuous winds. It is confidently believed that the construction of

the breakwaters will entirely prevent the formation of bars by the action of winds and waves, though it will of course not effect any reduction of material which may be brought down the river.

Appropriations for improving Fairport harbor have been as follows: 1825, \$1,000; 1826, \$5,620; 1828, \$9,135; 1830, \$5,563; 1831, \$5,680; 1832, \$2,600; 1834, \$10,000; 1836, \$6,000; 1838, \$10,000; 1844, \$10,000; 1852, \$10,000; 1864, \$24,453; 1866, \$24,072; 1867, \$60,000; 1874, \$20,000; 1875, \$15,000; 1876, \$5,000; 1878, \$5,000; 1880, \$3,000; 1881, \$10,000; 1882, \$10,000; 1884, \$10,000; 1886, \$18,750; 1888, \$10,000; 1890, \$20,000; 1892, \$35,000; 1894, \$20,000; 1896, \$30,000. Total, \$405,873. Expended to June 30, 1898, \$377,384. Balance unexpended July 1, 1898, \$28,489.

Fairport harbor is an important one, being the third in handling iron ore, and the fifth in amount of water freights. The draft of the largest vessels using this harbor is 20 feet. In 1895 the number of vessels entering and leaving this port was 1,532, and the total registered tonnage was 2,184,982 tons. In 1897, 523 vessels with a registered tonnage of 887,543 arrived; 492 vessels with 790,006 registered tons cleared. Freight received in 1897 reached 1,565,906 tons, of which 1,128,198 tons were iron ore; 268,098 tons, grain; and 169,610 tons merchandise. Shipments were 185,318 tons of coal.

*Cleveland.*—The city of Cleveland originally comprised lands purchased by the Connecticut Land Company, and formed a portion of what was termed the Western Reserve.

On July 22, 1796, Gen. Moses Cleveland entered the mouth of the Cuyahoga river from the lake. At that period the passage was very uncertain by reason of shifting sand bars, which were driven across the mouth by currents from the east. At times it was possible for persons to cross from shore to shore without the aid of boats.

In 1805 the west side of the Cuyahoga was ceded to the State by treaty, and the same year Cleveland harbor was made a port of entry and classed within the Erie,

Penn., district. It was at this time that Hon. Gideon Granger said: "In fifty years this will be the site of an extensive city, and vessels will sail directly from this port to seaports on the other side of the Atlantic ocean." This prophecy has been fully verified as to both salient points, the growth of a great city and the departure of the vessels. The first vessel to depart for the ocean from the port of Cleveland was the brigantine *Eureka*, Capt. William Monroe, in the spring of 1849, with passengers bound for San Francisco, Cal., and the first vessel to leave this port for Liverpool was the schooner *Vanguard*, Capt. A. Davis, with staves, in 1859, both of which reached their destination.

The first vessel built at Cleveland was the *Zephyr*, 30 tons, by Lorenzo Carter, in 1808. She was destroyed by fire at Congocketa creek, near Black Rock, N. Y. The next was the *Ohio*, 60 tons, in 1810. She was one of Commodore Perry's gunboats, but did not take part in the battle of Lake Erie September 10, 1813. The *Pilot* was built by Philo Johnson, in 1821; the *Prudence* by P. Taylor, in 1821; the *Macedonia*, 60 tons, by John Blair, in 1826; and the *Lake Serpent*, 40 tons, by Captain Burtiss, who sailed her that year.

On July 31, 1818, the first steamboat entered the harbor of Cleveland, the *Walk-in-the-Water*, sailed by Captain Fish. Her advent was greeted by salvos of artillery.

From the above chronological sequence has grown one of the most important harbors on the lakes, when it is considered in the light of its commercial enterprise and ship-building industry. It was not until artificial changes were made at the mouth of the Cuyahoga river, that Cleveland gained any manifest advantage of location. The first government appropriation, March 3, 1825, of \$5,000, was exhausted in the construction of a single pier from the east shore of the river; but no reliable entrance was obtained, as the water in the river was frequently so shallow that it was customary for vessels to lie off in the lake and transfer their cargoes to the docks by means of flat-boats. In 1827 Mr. Walworth, who was harbor master and collector of customs,

was sent to Washington, and succeeded in having an additional sum of \$10,000 granted for harbor improvements. A channel was then dredged and the river made to flow on the east side of the first or east pier, and another pier was run out on the east side of the new or straight channel. In 1854, during which year Ohio City, on the west side of the river, was annexed to Cleveland, a project, on a small scale, was commenced for widening the river.

The next new improvement of consequence was the construction of the west breakwater, for the commencement of which Congress, in 1875, appropriated \$50,000, in addition to \$3,000 which had been provided in 1870 for a survey. The appropriations previous to the adoption of the project for a harbor of refuge reached the sum of \$346,882, and subsequent to that time \$1,756,750, making a total of \$2,103,632.

Appropriations for improving Cleveland harbor have been as follows: 1825, \$5,000; 1827, \$10,000; 1829, \$12,179; 1830, \$1,786; 1831, \$3,670; 1832, \$6,600; 1834, \$13,315; 1836, \$15,006; 1837, \$10,000; 1838, \$51,856; 1844, \$25,000; 1852, 30,000; 1853, \$146; 1864, \$20,000; 1866, \$59,806; 1868, \$17,000; 1869, \$13,380; 1870, \$20,000; 1871, \$636; 1873, \$1,000; 1874, \$30,500; 1875, \$50,000; 1876, \$58,000; 1878, \$100,000; 1879, \$100,000; 1880, \$125,000; 1881, \$200,000; 1882, \$175,000; 1884, \$100,000; 1886, \$93,750; 1888, \$100,000; 1890, \$75,000; 1892, \$100,000; 1894, \$50,000; 1896, \$30,000; 1897, \$350,000; 1898, \$294,000. Total of appropriations, \$2,397,631.

The shore arm of the west breakwater was built from 1876 to 1881, and is 3,130 feet long; the main or lake arm, 4,030 feet long, from 1881 to 1887, and the east breakwater, 2,490 feet long, from 1888 to 1893. An extension of the east breakwater has been asked for by the manufacturing and kindred interests as far east as Wilson avenue, thence to lead in to the shore line. A light was placed on the east pier in the year 1869, and one on the west breakwater in 1885.

The Supreme Court of Ohio has granted

to the city of Cleveland permission to issue bonds in the sum of \$500,000 for the purpose of widening and deepening the channel of the river. Part of this work has been done, that is, between the viaduct and the Main street bridge. Relative to Colonel Smith's project for widening the river entrance, it is his purpose to remove the old pier on the west side and build a solid concrete structure 100 feet west of the present line, with a box-filled foundation, in every respect like the east pier.

Nature has done much for Cleveland harbor, and with the completion of the breakwater east and west of the entrance to Cuyahoga river it will become one of the best harbors of refuge on Lake Erie. There is no harbor on this lake to which a vessel captain will as readily make for during the prevalence of a living gale. It is free from the maximum force of the tempests which sweep without hindrance along the other lake harbor entrances. It is in a shallow "bight" and when vessels are inside the protecting arms of the U they ride with comparative safety.

Cleveland has a lake frontage of eight miles, and a river frontage of sixteen miles. More than a mile of this is taken up in passenger and freight boat landings, warehouses and grain elevators, the balance being devoted to furnaces, limekilns, and the handling of immense quantities of iron ore, coal and lumber, which products are the backbone of the city's commercial prosperity. There are four large ore-receiving docks, and numerous coal docks, all equipped with the best modern machinery for loading and discharging cargo. These are owned by the Cleveland & Pittsburg Railroad Company, New York, Pennsylvania & Ohio, Messrs. Corrigan, McKinney & Co., and the Cleveland Rolling Mill Company.

Cleveland, during the last ten years, has been the greatest shipbuilding center on this continent. More vessel property is also owned there than in any other city, and thousands of tons of vessel property owned in Cleveland ostensibly hails from other ports. The principal shipbuilding firms of Cleveland during later years were Thomas Quayle's Sons, Presley & Co., both of which



built wooden boats, and the Globe Iron Works Company and the Cleveland Ship Building Company, builders of iron and steel vessels. The latter company recently removed its plant to Lorain, leaving but the steel plant of the Globe Iron Works in Cleveland.

The total freight tonnage of Cleveland in 1895 was 5,282,599; in 1896, 5,522,111; in 1897, 6,118,731 tons. Total registered tonnage of vessels entering and departing in 1895 was 5,649,537; in 1896, 5,991,656; in 1897, 6,556,455.

During the season of 1897, 3,379 vessels arrived at Cleveland, having a registered tonnage of 3,257,492; 3,852 vessels departed, registered tonnage, 3,298,963. Freight received in 1897 aggregated 3,739,281 tons, including 2,770,265 tons of iron ore, 465,115 tons of lumber, and 213,007 tons of stone. Shipments for the season aggregated 2,367,592 tons, including 2,028,243 tons of coal.

In recent years the Great Lakes have been represented in journalism by two able weekly newspapers, both published in Cleveland, the older of these two being the *Marine Record*. It was established in 1878, and for many years was published and edited by A. A. Pomeroy. It is now published by the Marine Record Publishing Company, of which George L. Smith is president. C. E. Ruskin is now manager, Captain John Swainson being editor.

The publication of the *Marine Review* was commenced in 1890, the initial number appearing March 6 of that year. John M. Mulrooney and F. M. Barton were the publishers, Mr. Mulrooney filling the position of editor, Mr. Barton being business manager. The partnership continued until July, 1898, when Mr. Mulrooney became sole proprietor by purchasing the half-interest of his partner.

The lakes also have two annual publications: Beeson's Marine Directory, which has been published by Harvey C. Beeson, Chicago, since 1890, and the Blue Book of American Shipping, published since 1896 by Mulrooney & Barton, Cleveland, Ohio.

Lorain has been a promising port for many years. Its nucleus, Black River, was of some importance as early as 1818, and in 1828 a great ship-building industry was carried on there, the brig Globe having been built that year. Many good vessels have been turned out since that date. It was also a noted place for the shipment of staves, etc., and numerous cargoes of Black River staves found their way to the European markets, in vessels built at that port.

The excellent natural harbor attracted vesselmen, and in 1871 the Cleveland, Lorain & Wheeling Railroad Company, then known as the Tuscarawas Valley road, reached the lake at Lorain. This road has a dock frontage of almost a mile in extent besides numerous sidings and storage tracks on the water front, and its facilities for handling coal and ore have been increased during the last year by the erection of improved machinery, so that the capacity in that way equals about 12,000 tons per day.

The location at Lorain of the Johnson steel plant, on June 10, 1894, at which time the site was decided upon and stakes driven, greatly brightened the future for the little port. The site selected is about two miles from the mouth of the river, and about 4,000 acres of land was secured, 1,700 of which was set aside for manufacturing purposes, one-third being on the north bank of the river, the remaining 1,200 acres comprising a continuous tract bounded on two sides by the river, and a third by the Cleveland, Lorain & Wheeling railroad. The total river frontage, therefore, is about six miles, half of which is navigable water.

The sole request made of the town of Lorain by the Johnson Company to justify this immense outlay of capital was that the municipality should take such action as would provide for the immediate and future improvement of the river. This was promptly acceded to, and by ordinance harbor and dock lines were at once adopted which should straighten the river channel; to dredge immediately a channel sufficient to accommodate the largest lake vessels for a distance of four miles from the river

mouth, and thereafter, as rapidly as was consistent with financial conditions, proceed with the widening of the channel to the dock lines. This promise has assured for Lorain one of the finest harbors on Lake Erie, and its fulfillment to the letter is already assured in a very short time. Already a channel ninety feet in width and sixteen feet deep has been opened for a distance of three and a half miles from the mouth of the river.

Another important factor of the growth of Lorain as a port is the removal of the Cleveland Ship Building Company of its large and complete steel ship-building plant to that port. It has constructed two dry docks, capable of accommodating the largest vessels on the lakes. The transfer of the plant took place in 1897, the James Watt being the last steamer constructed by the company while the plant remained in Cleveland.

Harbor improvements at Lorain were commenced, in 1828, by the construction of parallel piers of wooden cribs filled to protect and confine the channel over the bar. As the demands of navigation increased the plans for the improvements here were modified and extended. By 1892 the piers had been extended to a depth of 16 feet in the lake, and the channel ordinarily had the same depth in the middle between the piers.

Appropriations for improving Black River harbor have been as follows: 1828, \$7,500; 1830, \$8,559; 1831, \$9,275; 1832, \$8,000; 1833, \$2,400; 1834, \$5,000; 1835, \$4,400; 1836, \$6,660; 1837, \$6,410; 1838, \$5,000; 1852, \$5,000; 1864, \$20,000; 1866, \$10,000; 1872, \$20,000; 1873, \$20,000; 1874, \$20,000; 1875, \$10,000; 1876, \$6,000; 1878, \$1,000; 1880, \$1,000; 1881, \$7,000; 1882, \$7,000; 1884, \$10,000; 1886, \$10,000; 1888, \$10,000; 1890, \$12,000; 1892, \$20,000; 1894, \$10,000; 1896, \$30,000. Total, \$292,204. Expended to June, 1898, \$292,202. Balance unexpended July 1, 1898, \$2.

During the season of 1897, 779 vessels, having a registered tonnage of 495,085, arrived, and 818 vessels, with 460,426 registered tons, cleared. Freight received by

lake in 1897 amounted to 435,357 tons, of which 394,511 tons were iron ore; 21,908 tons lumber, and 13,440 tons limestone. Shipments were 207,224 tons, consisting of 195,000 tons of coal, 2,480 tons of steel billets, and 9,744 tons of steel rails. The shipments of steel products will doubtless greatly increase in the near future. The total freight tonnage in 1897, 642,581, is an increase of 77,362 over 1896.

Vermilion harbor is near the mouth of Vermilion river, which flows into Lake Erie about 20 miles east of the entrance to Sandusky bay. When improvements were commenced here in 1836 there was less than two feet of water over the bar at the mouth of this river. The first work done was to construct parallel piers 125 feet apart over the bar and into the deeper water. These piers were repaired from time to time until 1874, when the east pier had obtained a length of 1,075 feet and the west one of 1,125 feet, a total length of 2,200 feet, and they extended to a depth of 12 feet into the lake. The channel had also been deepened occasionally by dredging.

Since 1874 no additional length has been given to the piers, but the rock and other material between them and on into the lake has been dredged to give a depth of 14 feet of water. This was previous to 1879. Up to this time the work for construction, repair and maintenance had been carried on under eleven appropriations, amounting to \$113,701, and since 1879 the money spent has been for repairs. From June 14, 1880, to June 30, 1898, the appropriations amounted to \$19,000. Total appropriations since 1836 have been \$132,701; expenditures, \$132,681.

Vermilion harbor is not a commercial port, but it is used to a small extent by boats engaged in fishing, and vessels often lay up there for the winter or for repairs. The draft of the largest vessels using this harbor is eleven feet. There is a light-house of the fifth order on the west piers.

The freight tonnage of 1895 was 3,668 tons; 1896, 3,482 tons; 1897, 3,826 tons. Receipts are chiefly lumber, and shipments fish.

*Huron.*—In 1709 French traders selected

Huron, on Lake Erie, as a site for the location of one of their trading posts. It is one of the best natural harbors on the lake. Huron was one of the first towns on the Western Reserve, but although well situated has never attained to anything like importance.

No sooner was the site on which Huron stands recognized, than the river with its great depth of water brought to its banks those interested in marine business, and quite an extensive traffic sprang up in many commodities of trade and commerce. Early in the thirties there were engaged in the forwarding business at this point a number of business men who later became well-known lake mariners. In the earlier days of navigation Huron was a general stopping place for the large carriers of the lakes, but that custom does not, to any great extent, obtain at the present date, the railroads having deflected the passenger and freight traffic.

In 1828, and subsequent thereto, Huron was noted as an important ship building point and many fine vessels were turned out. Among the earliest vessels constructed at Huron were the steamer Thomas Sheldon, built by Capt. F. Church, followed soon after by the United States, and the Columbus, built by Wickham, Walker & Co., in 1836; the same year Capt. William Squire built the DeWitt Clinton and Little Erie. In 1837 the Cleveland and in 1838 the Great Western, the latter the first upper cabin steamer on the lakes, were built.

In order to show the profits on handling freights in the early days, the following instance may be cited: In 1836 Wickham, Walker & Co., the senior member of which firm was John W. Wickham, built the steamer Columbus, at a cost of \$37,000. The vessel more than paid the expenses of her cost the first season, leaving the boat, as good as new, a net gain. Capt. F. D. Ketcham built quite a number of vessels and steamers at Huron, as did also Capt. John F. Squier, the latter constructing about thirty. In 1874 the steamer Ohio, the first four-masted boat on the lakes, was built by Ryan & Johnson, and in 1883 the steamer Sakie Shepherd was launched by her

owner, R. Shepherd. These, with Valentine Fries' fleet, the Wm. Edwards, Golden Age, Charles W. Foster, and Marvin W. Paige, built in the seventies, closed the shipbuilding industry in Huron.

In 1839 the Milan canal, connecting that town with the lakes, was completed, thus inflicting a severe blow on Huron, and dividing the great wheat industry usually done at the latter port. Sandusky also soon began to outstrip her competitors, and this continued until the building of railroads from Sandusky to the southern portion of the State, rendering the canal useless, the railroads rapidly pushing Sandusky into prominence.

During these years the fishing industry at Huron assumed respectable proportions, various firms investing in the business to the amount of many thousands of dollars, and hundreds of tons of fish were caught annually and shipped to foreign cities, New York City being the principal market. An army of men and many tugs and boats were in demand.

In 1882 the Wheeling & Lake Erie railway entered Huron by a branch from Norwalk, and a slip 1,000 feet in length was built by that road and the Huron corporation jointly to be used by vessels loading or discharging cargoes. This road enters the prolific coal fields of Ohio, and places Huron well to the front as a port of shipment of coal.

Some five or six years ago the docks passed into the hands of a corporation known as the Huron Dock Company, the incorporators being men of large vessel interests, who have equipped the plant with four hoists at an expense of \$50,000, and seven derricks, costing \$20,000 additional.

In 1826 the mouth of Huron river was closed by a sand bar, and a plan of improvement was adopted with the view of confining the currents by two parallel piers which should extend into the lake 140 feet apart. From time to time, as the necessities of the case required, the plan was modified until 1890. By this time twenty-two appropriations had been made and expended on this harbor, amounting in the aggregate to \$123,273. The piers had been



extended to a depth of 14 feet in the lake, and the channel had a depth of 15 feet. Appropriations were then made for this improvement as follows; September 19, 1890, \$16,000; July 13, 1892, \$15,000; August 17, 1894, \$10,000, and June 3, 1896, \$8,000, a total of \$49,000. Total expenditures to June 30, 1898, were \$172,261.

The east pier was extended 80 feet and the west pier 160 feet, the total length of the former pier under the latest project being required to be 720 feet, and of the east one 760 feet, and the channel had been dredged to a full depth of 16 feet. Receipts of freight by lake at Huron in 1896 were 262,796 tons, mainly iron ore, shipments 255,971 tons, consisting entirely of coal. In 1896, 198 vessels, of 182,121 tons, entered, and 203 vessels, of 168,191 tons, departed. In 1897 freight receipts were 233,482 tons, including 228,182 tons of iron ore; shipments consisted of 211,543 tons of coal.

*Sandusky harbor.*—The city of Sandusky has a brilliant past. Its magnificent harbor is measured by miles in every direction, and its encircling shores insure security to craft of all sizes and descriptions.

The history of Sandusky as a port dates back to 1805, when by Act of Congress Sandusky bay was declared to be a port of entry, and was included within the customs district of Miami. Seven years later, in the year 1812, the customs district of Sandusky was created, with the seat thereof located at Danbury, across the bay from the present city. In 1821, the collector's office was removed to Sandusky, where it has since remained.

The glory of Sandusky harbor culminated during the '40s, when the city, then the northern terminus of the only north and south railway reaching the lakes, was also the terminus of the "floating palaces," plying between Buffalo and Sandusky and carrying all the travel to the southwest. The importance of this traffic is a tradition among the older navigators of the lakes.

For many years it has been an important entrepot for iron ore, thousands of tons of which pass over its docks each season, bound inland for the furnaces of eastern

Ohio and western Pennsylvania, while the vessels which bring this ore to the docks are laden in return with coal, which is brought north to the lake over the Baltimore & Ohio, the Big Four, and the Columbus. Sandusky & Hocking Valley railroads for the upper lake ports.

While the draught of vessels on the lakes did not yet exceed ten feet, this harbor compared in importance with the harbor of any city; but as the vessels improved in size the shoalness of the water precluded the entrance of the great freighters until recent years, or until the government improvements, referred to below, were made, and which are a source of gratification to all persons interested in shipping and commerce to and from this port.

While Sandusky is out of the way of through traffic of the larger class of freighters, a large commerce is carried on in the more important commodities, and fast and elegant pleasure and passenger steamers ply regularly semi-weekly between this port and Detroit and Cleveland.

The harbor of Sandusky is in the lower part of Sandusky bay. The bay is formed in two parts, partially separated by points on opposite sides, and by the railroad bridge and embankments which cross the bay at the narrowest place. The waters of both upper and lower bays are shallow, being in general but 8 to 12 feet deep. The lower bay is separated from the lake by points of land a little more than  $1\frac{1}{2}$  miles apart; a sandy bar with 4 to 6 feet depth of water extends between the points, except over a small distance near Cedar point, where a concentration of the waters which ebb and flow as the surface level is varied has maintained a deep channel about one mile in length. The deep channel is separated from the lake by the "Outer bar," and from the city front by the shallow water of the bay.

Improvements of the channel were first contemplated in 1826, when an appropriation of \$400 was made for a survey. The first improvement was made under the appropriation of June 11, 1844.

Previous to the expenditure of appropriation of August 17, 1894, twenty appro-

priations had been made and expended, aggregating \$406,792.

Previous to 1888 the improvements consisted mainly of dredging in the natural channels of greatest depth, but it was then considered better to make a straight channel 17 feet deep and 200 feet wide inside of Cedar Point to east side of city front. When the channels were completed the other channels were 13 to 15 feet deep and 30 to 90 feet wide.

The present plan of improvement contemplates a permanent channel of 18 feet or more depth and not less than 400 feet wide over the outer bar, the channel to be partly formed and wholly maintained by scour of the currents which will be directed by a jetty of stone and brush from Cedar Point and a dike on the opposite side. Channels on inside to and along city front to be made 200 feet wide and 17 feet deep by dredging.

Dredging in the channels has been carried on under appropriations of August 17, 1894, in conformity to latest project.

The River-and-Harbor Act of June 3, 1896, required "a survey to be made of the bar at the mouth of the harbor and the cost of improvement to be estimated, with a view to securing and maintaining a permanent channel of sufficient depth next to Cedar Point." Total appropriations to June 30, 1898, were \$476,792, and total expenditures \$476,435.

The city of Sandusky is a thriving place, and is exceptionally well situated for shipments by water from the coal fields of Ohio. The commerce of the place has been increasing both in freight and registered tonnage, and its great increase in tonnage during the last few years has been made possible only by the improvements which have been made under the appropriation of August 17, 1894. Besides the freight steamers which carry about 800,000 tons of freight to and from this port in a year, these are several passenger steamers.

The total freight tonnage of 1894 was 600,454; 1895, 761,208; 1896, 1,383,455; 1897, 991,974.

Receipts in 1896 were 967,245 tons, of which 637,017 tons were iron ore; ship-

ments were 416,610 tons, of which 379,487 tons were coal; receipts in 1897 were 577,889 tons, of which 91,486 tons were iron ore; shipments in 1897 were 414,085 tons, of which 367,951 tons were coal. Vessels arriving in 1896 were 3,248, with a tonnage of 530,866; departing 3,213, tonnage 515,466; vessels arriving in 1897, 4,191, tonnage 706,475; departing 4,176, tonnage 704,736.

*Port Clinton.*—The harbor of Port Clinton is not a commercial port, though there are many tugs and other small vessels, mostly engaged in fishing, which frequently visit the place. A passenger steamer also runs regularly between Port Clinton and Put-in-Bay, during the season.

Improvements in this harbor were not commenced before 1867. In that year an examination was made with a view to its improvement. The channel was narrow and crooked, with a depth of not to exceed five feet over the bar.

In 1872 and 1873 the improvement was commenced by dredging a channel eight feet deep through the bar, and constructing a fence to stop the sand which drifted into the channel. In 1875, after \$10,000 had been expended, and when it had become apparent that the channel could not be maintained without piers, a plan was adopted to confine and direct the channel over the bar by piers on each side. In 1883 these piers had been extended as far it was thought necessary, a depth of 10 feet having been reached. The place is not exposed to heavy storms and seas, and the commerce of the port is small, so that a cheap class of work was thought sufficient, the estimated cost of this work being \$90,000.

The entire length of these two piers is about 4,000 feet. The east pier has, at its outer end, a pierhead about 12 feet square of piling, with timber superstructure filled with stone. A similar construction occurs at two other places between the outer end and the shore; otherwise the east pier is simply a row of oak pilings driven in the bottom and secured with walling pieces which support a sheet piling.

About 720 feet of the west pier at the

outer end is a substructure of piles, with a superstructure of crib work 14 feet wide, filled with stone. Inside of this end this pier is similar to the east pier, with small riprap protection.

The channel has a depth of 10 feet, which is deemed sufficient for the necessities of the place.

Total appropriations from July 10, 1872, to June 30, 1897, were \$88,000, and expenditures \$80,285. Receipts from outside the district in 1895 were 4,165 tons; 1896, 3,275 tons, mostly lumber. In 1896, 29 vessels entered with a tonnage of 2,245; in 1897, 36 with a tonnage of 2,570. Receipts in 1897 were 5,457 tons; shipments 769 tons. The total freight tonnage in 1897 was 6,226 against 3,257 in 1896.

*Toledo.*—It was but natural that the pioneers of the northwestern counties of Ohio, guided in their choice by the small size of the vessels then in use, and the military importance of Fort Miami, should have decided that the future metropolis of Ohio should be near the site upon which Perrysburg was built, and that its sister village of Maumee should be the Brooklyn of the future Gotham. This would have placed the port about six miles up the river from where Toledo now stands. Perrysburg advanced rapidly for several years.

The turning point came with the completion of the Miami and Erie canal, which instead of finding its terminus at Maumee, was continued down the river until its waters were emptied almost into the bay itself. Here a town sprang up bearing the name of Manhattan. Good docks and great warehouses were rapidly built. To offset the shallowness of the bays the warehouses were built upon piling, and extended almost to the center of the river, so that the deepest laden boats could enter the river and touch at the warehouses without litarage.

This changed the base of operations by a distance of nearly nine miles, and resulted in a bitter war between Perrysburg and Manhattan. Influences were at work to again change the terminus of the canal, and abandoning several miles of its old bed, it found a new outlet with its last lock upon Swan creek, near the point where it enters

the Maumee river. In the absence of railroads, the canal was the great feeder for lake business, and in what was then the newly-founded town of Toledo.

The commodities mostly dealt in by Toledo shippers are grain, coal and lumber. The four largest coal docks are controlled by the Hocking Valley, the Cincinnati, Hamilton & Dayton, the Ohio Central, and the Wheeling & Lake Erie railroads, and the coal is handled directly by the coal companies in connection with the railroads and boats.

The Wabash and Clover Leaf lines of steamboats, the former now known as the Lake Erie Transportation Company, are important factors in the commercial growth of Toledo. The boats of these lines ply regularly to this port, and transport vast quantities of merchandise of all descriptions.

The elevators in Toledo handle a large quantity of grain which reaches them by rail, and is transported to other lake ports by the numerous vessels engaged in that trade.

The channels through Maumee bay previous to 1866 were very indirect, and in shoalest places the depth did not exceed 8½ feet at mean lake level. A project for deepening the channel by dredging was adopted in 1866, pursuant to the requirements of the River-and-Harbor Act of June 23, 1866. The original project was to secure a depth of 12 feet. The plan was amended from time to time until the old channel had been dredged to a depth of 16 feet. In 1892 the midchannel depth in old channel was but 15½ feet, since which time it has not been surveyed.

In 1887 a project for a straight channel 17 feet deep and 200 feet wide on the bottom was adopted in compliance with previous Acts of Congress.

Upon the basis of protecting the channel by piers or other type of revetment, the cost was estimated to be \$1,875,000.

The project was subsequently modified by increasing the width proposed for outer section of channel, about three miles in length, to 300 feet, and by including the dredging of "The Crossing" and "Lake Shore Shoals" in the Maumee river, each



about 4,000 feet long, to a depth of 18 feet and width of 400 feet.

The dredging of the straight channel had been practically completed 200 feet wide before the close of the season of 1892, but a large amount of filling was subsequently found to obtain from various causes which have since been made a subject of careful observation. Dredging has been continued not only for the purpose of removing the material filled into the channel, but for increasing its depth to such extent that a shoaling might occur in places, or even throughout, without seriously interfering with navigation.

The Sundry Civil Act of June 4, 1897, required "a survey and estimate of cost of deepening and widening the straight channel in Maumee river and bay, with a view to obtaining and permanently securing a channel of uniform width of 400 feet and 20 feet deep at low water."

Appropriations have been made for old channels as follows: 1866, \$20,000; 1867, \$20,000; 1869, \$29,700; 1870, \$50,000; 1871, \$50,000; 1872, \$15,000; 1873, \$100,000; 1874, \$75,000; 1875, \$75,000; 1876, \$60,000; 1878, \$50,000; 1879, \$20,000; 1880, \$30,000; 1881, \$40,000; 1882, \$50,000; 1884, \$20,000; 1886, \$9,632; 1888, \$5,000; 1890, \$5,000. Total for old channel, \$724,332.

Appropriations have been made for straight channel as follows: 1884, \$15,367; 1886, \$112,500; 1888, \$150,000; 1890, \$200,000; 1892, \$200,000; 1894, \$70,000; 1896, \$150,000. Total for straight channel, \$897,867. Total of all appropriations for Toledo harbor, \$1,622,200. Total expended to June 30, 1898, \$1,611,821. Total for straight channel to June 30, 1898, \$887,488.

The total lake freight tonnage of Toledo in 1895 was 2,037,500; 1896, 2,154,728; 1897, 2,409,594. Receipts in 1896 were 1,049,891 tons, of which 314,000 was iron ore and 230,000 sand and gravel; shipments 1,104,837 tons, of which 706,500 tons were coal. Receipts in 1897 were 940,002, of which 417,721 consisted of ore; 98,432, sand; 149,107 lumber; 89,305 coal. Shipments in 1897 were 1,469,592 tons,

including 935,534 tons of coal; 226,030 tons of wheat, 130,118 tons of corn. Vessels entering in 1896 were 2,379, with a tonnage of 1,121,964; departing, 2,381, tonnage 1,130,430; vessels entering in 1897, 2,409, tonnage, 1,251,241; departing, 2,407, tonnage, 1,240,803.

*Monroe.* — The village of Monroe was established in 1817, but before that time it had been occupied by fur traders, and was known as Frenchtown, occupying both banks of the River Raisin. Monroe became a city in 1837, but the population in 1838, including Frenchtown, was only about 1,800. At that time Monroe was struggling with its great rival, Toledo, and was in the ascendancy until the Wabash & Erie canal was completed, when Toledo gained rapidly. Monroe struggled valiantly against its fate, but in vain. A line of steamers was established in 1852 and 1853 between Buffalo and Monroe, including the Southern Michigan, the Northern Indiana and the City of Buffalo, the largest and most sumptuous steamboats on the lakes, but a little later the railroad was completed along the southern shore of Lake Erie, and the magnificent steamers could not compete with the new carriers. Situated midway between Detroit and Toledo, Monroe lost in the great race. The population of the city in 1874 was 5,782; in 1890, 5,618.

Monroe harbor is on the Raisin river about two and one-half miles above the mouth of the dredged canal, which forms the outlet into the lake. The mouth is protected by two piers, the one on the north side being a crib work built with stone, and the one on the south side being a construction of piling and crib work. In 1834 the Raisin river emptied into the lake at the southerly end of a low marshy peninsula lying between the channel and the lake. The water at the mouth of this river was very shallow, being over a bar on which the deepest soundings were but five feet. From 1835 to 1882 improvements were made, consisting in part of a canal 4,000 feet long, 100 feet wide and 10 feet deep, across the neck of the peninsula at a point one and a half miles above the mouth of the river. The total cost of construction

and maintenance to June 30, 1897, was \$240,534. The result has been a mid-channel depth of nine feet or more from the lake to the wharves, where the depth is eight to nine feet, with a bottom of solid rock.

The commerce of Monroe is small, because of the shallowness of the water, and also because of the location between Toledo and Detroit. It is almost entirely limited to receipts of telegraph poles, most of which are brought in rafts with tugs of light draft to tow the rafts in the river. During the warm season of summer several small steamers carry passengers to the small resorts near the mouth. The steamers land at the piers and do not generally run to the Monroe wharves.

During the season of 1897, 245 vessels, having a registered tonnage of 11,180, arrived, and the same number departed. Receipts in 1897 were 425 tons, shipments 1,300 tons.

#### ON CANADIAN SIDE.

*Port Colborne* harbor.—At the Lake Erie terminus of the Welland canal lies the village of Port Colborne, of about 2,000 inhabitants, the interests of which centers about that important waterway.

The lighthouses in the vicinity of Port Colborne are the following: Port Colborne main lighthouse, at the Lake Erie entrance to the Welland canal, on the west pierhead. It was established in 1852 and rebuilt in 1890.

Port Colborne rear range light is on the east side of the entrance on a crib, 2,030 feet from the main light; it was established in 1878 and rebuilt in 1887.

Mohawk Island light is between Port Colborne and Port Maitland, one mile southwest of the mainland; built in 1848.

Port Maitland light is on the west pier, established in 1846 and rebuilt in 1875. It is at the entrance to Grand river.

*Port Dover* harbor is on the north shore of Lake Erie. Work was begun here as early as 1832, and continued, as necessary, from year to year. On November 5, 1894, an agreement was entered into between the United States, the Ontario Steam Naviga-

tion Company and the Department of Public Works of the Dominion of Canada, for the performance of certain work at the entrance to the harbor of Port Dover, the company to receive a subsidy of \$15,000 when the work was completed to the satisfaction of the department. The company, having expended \$45,200 in dredging and constructing the works necessary to operate the lake ferry boats, a certificate was given November 5, 1896, stating that the company was entitled to receive the \$15,000. Afterward the company went on improving the harbor, deepening the approach to the piers and also the space used by the ferry boats.

The light in this vicinity is the Port Dover light, 110 feet from the outer end of the west pier, established in 1846.

*Port Rowan* is situated on the north shore of Lake Erie, in Long Point bay, 21 miles from the town of Simcoe. There having been appropriated the sum of \$6,000 toward the construction of a landing pier here, a contract was made in 1892 for the construction of a pier 1,060 feet long, the structure to consist of a shore approach 535 feet in length, of stone and gravel, and the remaining 525 feet to consist of 12 cribs, with spans between them covered over. The work was completed in June, 1894, at a cost of \$9,498.

In this vicinity there are two lighthouses, one named Long Point, or North Foreland, on the eastern extremity, established in 1843. The other lighthouse is on the west end of Long Point, on the east side of the new channel, established in 1879.

*Port Burwell* is situated at the mouth of Big Otter creek, 20 miles to the eastward of Port Stanley, and 37 miles west of the extremity of Long Point. In 1832 a company was chartered for the construction of a harbor at this place, and in 1837 Parliament granted £3,000 to aid the enterprise; but notwithstanding this, in 1843 the works were in a dilapidated condition, and the channel between the piers had, to a great extent, been silted up.

In 1849 a new charter was granted authorizing the company to raise £20,000 for

the purpose of reconstructing the harbor, and from that time on for several years a large amount of money was expended in extending the piers and deepening the channel between them. For a few years immediately prior to 1870 important improvements were made. Originally the entrance to the harbor was formed by two piers placed 175 feet apart, each pier having a direction nearly due south; but about 1869 the west pier was extended, so that it was fully 730 feet long, and the east pier was made 419 feet long.

The light in this vicinity is the Port Burwell or Big Otter Creek light. It is 1,000 feet inshore; established in 1840.

*Port Stanley.*—A survey of the north shore of Lake Erie was made by Patrick McNiff, who, in his report made to Patrick Murray, commandant at Detroit, and dated June 16, 1790, said: "From Point aux Pins to the portage at Long Point, no possibility of making any settlement to front on this lake, being all the way a yellow and white sand bank from 50 to 100 feet high, covered with chestnut and scrubby oak, and no harbors where even light boats may enter except River Tonty and River a la Barbue (Kettle and Catfish creeks). In consequence of this unfavorable report, townships were directed to be laid out on the Thames river, instead of the lake shore.

Col. Thomas Talbot, in 1803, settled at Port Talbot some ten miles west of Port Stanley. At that time the nearest settlement on Lake Erie was at Turkey Point, 60 miles distant. During the war of 1812 the settlement was visited by Americans or their sympathizers, and considerable property destroyed. Colonel Talbot controlled, under a grant, most of the land lying along the north shores of Lake Erie. Port Stanley was named after Lord Stanley, afterward Earl Derby. Lord Stanley was visiting Colonel Talbot about the time the place was named.

Port Stanley harbor is at the mouth of Kettle creek on the north shore of Lake Erie about 85 miles from the entrance to the Welland canal and Port Colborne. It is the terminus of the London & Port Stanley railway, by which road the distance to

London, Ontario, is 24 miles. In the early day it was believed that the mouth of this stream possessed facilities for the construction of a harbor that would accommodate the trade of an extensive agricultural region lying to the north, of which region the flourishing city of London now forms the center.

In 1827 an Act was passed by the Parliament of Upper Canada, appointing commissioners to construct a harbor, and authorizing the expenditure of £3,000 for the erection of the necessary piers. This sum was supplemented by further grants before the union of the provinces. When the union was formed, the control of the harbor was transferred to the then newly-established Board of Works, which made extensive improvements. The total sum expended up to Confederation was \$230,531. In 1853 the trade of the place had so much increased that it ranked as one of the most important ports in Western Canada. In 1856 railroad communication was established between Port Stanley and London with the view of benefiting the trade of this port; but the hopes of the projectors were not fully realized, as it was shortly afterward found that the bulk of the commerce was carried by the Grand Trunk railway, and the Port Stanley line acted for years at least as an outlet for the overflow of the traffic of the main trunk line.

By an Order-in-Council, dated September 1, 1859, the control of this harbor was transferred to the London & Port Stanley Railway Company, on condition that the tolls collected should be applied to the maintenance of the works. For several miles before entering the lake the creek here has a tortuous course through a deep, clay valley, is subject to heavy spring freshets, which bring down a large amount of detritus and frequently cause considerable damage. The entrance to the harbor is formed by two lines of piers that have a direction nearly south, and are from 82 feet apart at the inner end to 86 feet apart at the outer end. In 1870 the western pier was 1,456 feet long while the eastern pier was 1,150 feet long. The narrow space between the piers, together with the bar at



the entrance, rendered it difficult for a vessel to enter the harbor during stormy weather; but when once inside the basin she was perfectly safe. This inner basin was 850 feet long by 280 feet wide, and thus contained nearly five and a half acres, a small portion of which was from 7 to 11 feet deep, but the greater portion was only from one to five feet deep. Much work has since been done.

The lighthouses here are the following: Port Stanley lighthouse, on the west pier-head, established in 1844 and rebuilt in 1882, the light being visible from all points eastward, and the Port Bruce or Catfish Creek lighthouse, established in 1876.

*Morpeth* harbor, on the northern shore of Lake Erie, is 10 miles east of Rondeau. In 1883 there was voted \$4,000 toward location of the pier 500 feet long, the water to be 12 feet deep at the outer end. At the session of 1884 there was voted the further sum of \$12,000 toward continuing the pier.

*Rondeau* harbor is 42 miles northeast from Point Pelee, and 92 miles west by south from the lighthouse at Long Point. Its eastern side is formed by a low, sandy ridge running along it fully 7 miles in a direction nearly due south from the mainland, and terminating in an angular point covered with a growth of pine trees. Hence its name, "Point aux Pins." From this point the ridge has a westerly course for  $2\frac{1}{2}$  miles, when it becomes a flat, low ridge, but little above the water surface, and continues in that direction until it unites with the main shore at a point 7 miles distant from the Point. Within the triangular space thus bounded lies what is called the "Rondeau," a sheet of water 6 miles long, with a width of from one to two miles, and containing an area of about 6,000 acres of open water. The average depth of the water in the "Eau" was at first from 7 to 9 feet, the bottom being generally soft, thick mud, into which a pole could be thrust from 4 to 6 feet.

Attention was early drawn to this point as being favorable for a harbor, and in 1843-44 certain works were projected and carried out, which it was thought would be likely to effect the object. There were

three openings through the low portion of the ridge, the eastern and deepest one being 2,170 feet wide. Nearly in the center of this opening were placed the entrance piers, parallel with each other and 150 feet apart, and extending to the length of about 700 feet. They had a direction nearly due south, and were flanked by breakwaters running at right angles to them, the western breakwater being 1,000 feet long, and the eastern one 800 feet long.

This harbor was sold July 1, 1851, to the Rondeau Harbor Company for the sum of £2,000.

On March 21, 1853, a petition, addressed to the Governor-general of British North America, asked government aid in establishing a steamship line from Rondeau harbor to the city of Cleveland, which is nearly opposite this point. The petitioners stated that the leasing of the harbor in 1851 to a private company had not been attended by the great public benefits that had been expected; but that on the contrary since the transfer of the harbor to this private company the lighthouse had been a mere decoy, and several wrecks with loss of life and property had been the result. No light had been kept in the lighthouse during the entire season of 1852.

In consequence of these representations D. Brown was sent to Rondeau harbor in 1853, to examine and report upon the condition of the works there. In his report of January 1, 1854, Mr. Brown stated that the piers were two in number, running north and south, each pier being about 732 feet long. They appeared to be about as they were in the fall of 1849, and in quite good repair. The depth of water between them was about  $16\frac{1}{2}$  feet, and in the harbor it was about  $9\frac{1}{2}$  feet. The breakwater at the east pier was 833 feet long, and in good condition, and the western breakwater was about the same length, and in the opinion of Mr. Brown, far too short. The lighthouse stood as erected, but no attempt had been made to keep a light in it for two years.

December 30, 1857, a report was made to Thomas A. Bigby, Secretary of Public Works, by William Scott, C. E., in which

he described the works at the harbor as being in a state of almost utter dilapidation, except that the eastern breakwater was entire and nearly as good as when built. The lighthouse had been burned down accidentally in the spring of 1857 by two fishermen who had gone into it for shelter. The tower burned to the water's edge, but there had been no light in it for six years. Mr. Scott said that Rondeau harbor had advantages unequaled by any place on Lake Erie for affording shelter to vessels in distress, and for doing a large trade, if the entrance were permanently improved and a good lighthouse erected. He made recommendations for the improvement of the harbor and submitted an estimate of the cost, which was \$13,500. The government had resumed possession of the works, but all that was done up to 1870 was comparatively valueless. At the village of Shrewsbury on the northwest side of the "Eau," and two and a half miles from the entrance, a wharf was built 2,000 feet long, but by 1870 it was so completely destroyed by ice that scarcely a vestige was to be seen.

In 1872 a contract was signed for building piers at this place and enlarging the channel, deepening the basin, and for other improvements required at this harbor of refuge.

At Rondeau harbor there are two range lights, one on the outer end of the east breakwater pier at the entrance to the harbor, established in 1876, and one on the east breakwater, 780 feet from front light, also established in 1876.

Pelee Spit lighthouse is one and three-fourths miles from extreme end of Pelee Point. It is 76 feet above high water, and was established in 1861.

Pelee Island light, on the northeast point of Pelee island, was established in 1840.

Middle Island light, between Pelee and Kelley islands, was built in 1872.

Leamington light is on shore near the pier. It was 48 feet above high water and was erected in 1880.

*Kingsville* harbor is on the north shore of Lake Erie, about midway between Point Pelee and the mouth of the Detroit river. In 1883 there was granted for the improve-

ment of the harbor here the sum of \$32,500 and for the construction of a harbor of refuge, which was dredged to the depth of 12 feet at low water. The harbor of refuge was completed during 1886, the total expense up to that time having been \$47,609.

The two lighthouses here are located as follows: One on the outer end of the east breakwater pier, ten feet from water's edge, established in 1886; and the other, also established in 1886, on top of bank at head of east pier, 1,060 feet from front light, both lights being visible from all points seaward.

There is a lighthouse on Colchester reef, near its southeast edge, established in 1885.

#### LAKE ST. CLAIR AND CONNECTING RIVERS.

*Detroit.*—Perhaps no city on the Great Lakes is so intimately associated with the history of the Great Lakes as Detroit. It is the oldest on the lakes, one of the oldest in the country. The name is the French term for strait. Indian villages flourished on its site and in its vicinity in prehistoric times. Antoine Cadillac, founder of the city, received from the French king prior to 1704 a grant of an extensive tract at Detroit and vicinity. A French fort had been built here in 1701, but was partially destroyed by the Indians two years later. It was rebuilt in 1718 and made one of the strongest in the country. Cadillac had been appointed French commandant at Michillimackinac in 1694. He returned to Quebec in 1699, and in 1701 he established the post at Detroit. He was at Detroit in 1711, but in 1713 became Governor of Louisiana. While at Detroit he induced many French families to settle along the strait. In 1709 the population was about 200, and in 1760, when surrendered by the French to the English, the population exceeded 2,000. The gallant defense of Detroit during Pontiac's conspiracy is narrated elsewhere in this volume.

During the Revolutionary war the English feared an attack on Detroit by the colonists. The Indians were rallied to the defense of the British, and Capt. Henry Hamilton was, in 1775, appointed Lieuten-

ant-Governor at Detroit. Several expeditions against the colonists were sent out from Detroit during the war, and in one of them Governor Hamilton was captured by the colonists at Vincennes. An expedition against Detroit was planned by General Washington, but had not been undertaken when peace was declared. After August 10, 1776, and during the war, no vessels were permitted on the lakes except such as were enrolled at Detroit and armed and manned by the Crown.

A few English and Scotch settlers arrived a little later, but the post had not grown materially when surrendered to the United States in 1796. Settlers from the Eastern States began to arrive about 1805. Until about 1830 the growth of the young city was slow, but steady. In 1812 the population was stated to have been only 800. Hull's surrender of Detroit, in that year, was a crushing blow to American supremacy on the upper lakes, retrieved only by the success of Perry on Lake Erie the following year.

The population of Detroit in 1830 was 2,222; 1840, 9,192; 1850, 21,019; 1860, 45,619; 1870, 79,577; 1880, 116,342; 1890, 238,264.

Two wharves are shown on the map of Detroit for 1796. In 1819 permission was granted to H. Berthelot to build a wharf at the foot of Randolph street, and other wharves soon followed. At present good and substantial docks over five miles in length line the river along the city front. The harbor formed by the Detroit river is larger than the harbors of Buffalo, Erie, Cleveland, Milwaukee and Chicago combined. There has been no need of government work, since the magnificent harbor is the work of nature.

During the period of early steamboat navigation Detroit was the principal western post for many years, and the interests of the city were chiefly marine in nature. Vessel interests have always been large. The first craft known to have been built at Detroit was the *Enterprise*, launched in 1769. Many sail vessels were subsequently constructed during the period of English rule. When steam navigation followed,

Detroit maintained her interests. Of the thirty-seven steamers plying on the lakes in 1837, seventeen were owned in Detroit. The growing city maintained an unrivaled supremacy in lake navigation until the railroads usurped the western passenger traffic. The city now contains many prominent lake men. One of the best ship-building plants on the Great Lakes is tributary to Detroit.

No other city can boast of such a magnificent water front as Detroit possesses. Deep enough to allow vessels of the heaviest draught to its docks, the river is also wide enough, and of sufficient length to afford anchorage room for the combined navies of the world; in fact it is questionable whether there is another spot on the continent similarly favored by nature with so many advantages.

*Rouge River*, in Michigan, flows into the Detroit river. Originally it had a channel depth of about 10 feet or 17 feet, for a distance of about three miles from its mouth. Its improvement was commenced in 1888, under a project for securing a regular channel depth of 16 feet, with a width of 240 feet for a distance of 800 feet from its mouth, and thence with a width of 100 feet to the Wabash railway bridge,  $2\frac{3}{4}$  miles further up. The work or improvement was completed in 1892. The appropriations made for this improvement up to June 30, 1896, amounted to \$41,690. The commerce of this river is rapidly increasing with the establishment of large interests dependent upon reliable water communication. Receipts by vessels for 1896 were 120,590 tons, of which 57,030 tons consisted of lumber, and 47,500 tons logs. Shipments were 2,905 tons of lumber. Vessel receipts in 1897 were 115,987 tons, of which 51,345 tons were lumber, and 43,750 tons logs. Shipments were 9,386 tons.

*Clinton River*, in Michigan, is a navigable stream emptying into Anchor bay in the northwesterly part of Lake St. Clair. It had originally a channel depth of 10 feet, except at shoals over which there was but 5 or 6 feet of water, and there was a broad flat at the mouth of the river where the water was not over 3 or 4 feet deep.



In 1870-1871 a channel of 9 feet in depth, 60 feet wide and 2,700 feet long was dredged through this flat, but as it was left without works of protection it soon refilled. In 1885 a general project of improvement was adopted which provided for a through channel 8 feet deep to Mount Clemens, eight miles up stream. Up to June 30, 1897, there had been expended \$67,673.

Appropriations to that date were \$75,064. Receipts by vessel in 1897 were 29,077 tons, including coal, gravel, lumber, logs, stone, etc.

*Algonac*, one of the oldest settlements of Michigan, is located at the head of St. Clair flats. Its population is about 1,000.

*Pine River*, Michigan.—The project for the improvement of Pine river at St. Clair is for dredging the river from its mouth to Belknap's brick-yards, a distance of about 5,800 feet, to dredge the channel to a width of 100 feet with a navigable depth of 14 feet up to the "ship yard," and thence 75 feet wide and with a navigable depth of 12 feet. The estimated cost of this work is \$10,560.

The lake commerce of Pine river is small. In 1896, 455 tons of limestone were received, and 2,228 tons of brick shipped. In 1897 350 tons of limestone were received, and 6,470 tons of brick and lime shipped.

*Marine City*.—Situated on St. Clair river, near Lake St. Clair, is a pleasant little city devoted largely to marine interests. It was formerly known as Newport. Here Captain Samuel Ward settled about 1819, and the year following a little schooner, the *St. Clair*, of 30 tons, was built for Captain Ward. She was shaped like a canal boat, full ends, with rudder "out doors." In this boat Captain Ward gained his start, trading in general merchandise. The Captain made several extensive trips in this little boat, one of which was from Green Bay to New York. The schooner *Grampus* was built by Henry Robertson and Isaac Pomeroy soon after. About 1831 Captain Ward built the schooner *Marshal Ney*, of 75 tons, the first boat built in Ward's shipyard proper. About 1835 the schooner *Harrison*, of 100 tons, came out. She was somewhat long and narrow, and somewhat crank, but a good sailor. E. B.

Ward, afterwards one of the most prominent marine men of the lakes, sailed in her as mate. In 1839 he built the hull for the steamboat *Huron* No. 1, but had not the means to complete it. His nephew, Eber B. Ward, took the matter in hand and developed a rare business sagacity. The *Huron* was placed on Lake Erie and run in opposition to a line of steamers at great profit. In 1841 the Wards bought out the steamer *Champion*, and two years later the steamer *Detroit*. In 1848 the *Franklin Moore* was built, and the steamer *Sam Ward* the same year. Shipbuilding was active in subsequent years. In 1851 four side-wheel steamers were built here, the *Arctic*, *Ruby*, *Pearl* and *Caspian*. Marine City still contains several shipyards, and has a population of 3,500. Many lake vessels are owned by residents of the village.

*Belle River*, Mich.—The improvement of this river was commenced in 1880, the object being to obtain a channel 50 feet wide, 13 feet deep to the first bridge, and 12 feet deep thence to the second bridge, the prime object being to provide a winter harbor for vessels. The work was completed in 1885 according to the above project at a total cost of \$14,000, and gave satisfaction until 1892, when the width and depth of channel became insufficient to accommodate the increased number and size of vessels seeking refuge during the winter months. The plan adopted in 1896 provided for a navigable depth of 15 feet. Arrivals in 1896 were 482, with a tonnage of 101,967.

*Port Huron*.—In 1686 M. Du Lhut (Du-luth), in command of the French post at Mackinaw, was directed to establish a fortified trading post on the straits between Lakes Huron and Erie. He accordingly erected Fort St. Joseph on the present site of Fort Gratiot. It was abandoned two years later. The place was a favorite settlement for Indians, and within the memory of those now living as many as 3,000 Indians have at one time been encamped there. During the summer of 1790 seven Frenchmen with their families settled on the spot, built shanties and dwelt amicably with the Indians. The settlement was called Des-

mond for a time, but more commonly Delude. Black river was then known as la Riviere Dulude. A village was platted in 1835 by the Hon. Daniel B. Harrington, and the name Port Huron given to it. Fort Gratiot had been built by the United States in 1814. It was garrisoned in 1817-18 by Maine troops, many of whom at the expiration of their enlistment located in the vicinity. About 1839 the last of the Indians left the vicinity. A village was organized in 1849, and the city government was formed in 1857. It has a population of 18,147. Port Huron is a lively manufacturing city, and is pleasantly located on ground well elevated above the river level. The current of the river is swift and is not obstructed by ice oftener, on an average, than once in ten years.

The mouth of *Black River*, in its natural condition, had an extensive bar and shoal in the St. Clair river adjoining it. This bar, lying close to the American side, obstructed the approach to the Port Huron docks, while the shoal, known as the "middle ground," comprised an area of nearly 50 acres, crowded the main channel into a sharp curve close to the Canadian side. The vast through commerce of the lakes was thereby exposed to the dangers attending upon passing the narrow and crooked channel with a swift current. In 1871 a project was adopted for dredging the bar and middle ground to a uniform depth of 15 feet. The work commenced in 1873 and was completed in 1878, and in 1886 a deposit of about six inches had been made, but no further work was done until 1889, when a new project was adopted for dredging to a uniform depth of 16 feet. This project was carried out and completed in 1892. It is very important that the channel at this place should be kept in the best possible condition. The entire amount of appropriations made for this improvement, including that of June 3, 1896, was \$94,500.

Black river passes through the city of Port Huron, and empties into St. Clair river. In its natural condition it had a depth of about 10 feet, reduced to  $8\frac{1}{2}$  at several shoals. By the River-and-Harbor

Act of September 19, 1890, an appropriation was made of \$25,000 for dredging this channel to a depth of 16 feet. The total appropriations to June 3, 1896, inclusive, were \$43,000.

Receipts by lake at Port Huron, in 1896, were 186,987 tons; shipments, 2,598 tons; in 1897 receipts were 96,925 tons; shipments, 1,455 tons. During 1896 628 vessels, with a tonnage of 72,950, entered and cleared; during 1897 1,612 vessels, with a tonnage of 578,489.

#### CANADIAN PORTS, ETC., ON CANADIAN SIDE.

*Amherstburg* harbor is situated five miles above Lake Erie. Amherstburg is a port of entry and a coaling station. Beginning at Mullen's new dock and continuing down the Detroit river, the Canadian Government has made cuts of 75, 130, 140, 350, 400, 550 and 800 feet in length, all of them adjoining, having a width of 25 feet, and being dredged to a depth of  $18\frac{1}{2}$  feet at the lowest stage of water in the river.

The lights in the vicinity of Amherstburg are the following:

Bois Blanc light, on the foot of Bois Blanc island, below and opposite Amherstburg. Established in 1837 and rebuilt in 1880.

Amherstburg range lights, the front range light being on the east bank of the Detroit river, 80 feet from the edge of the water, and 2,300 feet north of Fraser's dock, established in 1889; and rear range light, 475 feet north, 1,630 east from front light, established in 1889; both these lights being maintained by the Lake Carriers Association.

Head of Bois Blanc island range, front light being 300 feet from the extreme north point, established in 1875, rebuilt in 1892; and the rear light, 450 feet from front light, established in 1875 and rebuilt in 1892.

Limekiln Crossing range, the front light being on a pier on shoal at the foot of the dredged channel, opposite Fort Malden, above Amherstburg, established in 1886 and rebuilt in 1891; and a rear light, on a pier 899 feet from front light, established in 1886 and rebuilt in 1891.

Fort Malden range, the front light being on the edge of the bank of the east side of the Detroit river, about 2,000 feet east of the railway station, and abreast of the lower end of Limekiln Crossing cut, established in 1889, and a rear light, on the east side of the street, 646 feet from the front light, 108 feet above high water, established in 1889; both these lights being maintained by American vessel owners.

Texas Dock range, front light on lower end of railway transfer slip, a fixed red light, reflector, lantern on a mast, with day beacon attached, and a rear light, 375 feet from front light, on the bank above Texas dock; both these lights being maintained by Duff & Gatfield, pilots, at the head of the dredged channel.

*Little Bear Creek* empties into the Chenal Ecarte, on the eastern side of St. Anne's island, Lake St. Clair, about 10 miles from Chatham and seven miles from Wallaceburg. At the Session of 1883 the sum of \$5,000 was voted toward dredging a channel 40 feet wide and having a depth of eight feet, from the Chenal Ecarte to the highway known as the "Bear Line," a distance of about a mile. In 1884 the sum of \$5,000 was voted for the construction of a pier at this place, 150 feet long. In 1885 there was voted \$2,250 more.

*Sydenham River* has its outlet into Chenal Ecarte, which is a passage between St. Anne's island and the mainland of Lake St. Clair. The river is navigable from its mouth to Wallaceburg, above which place it divides into two branches, one north to Wilkesport, 14 miles, and the other east to Dresden, 15 miles. These branches were so obstructed as to be unnavigable until 1883, at which time \$5,000 was voted toward clearing them of logs, etc., this work being steadily carried on during the year, at the close of which the east branch had been cleared to a distance of 11 miles, and the north branch to a distance of six miles, the expense up to this time was \$14,869, from the time of Confederation.

In 1884 the sum of \$2,500 was granted to continue the work of removing sunken logs and other obstructions from the north

branch of this river. The work of sheet piling the northwest side of the turning basin at the town of Dresden was completed in 1889, and vessels were then enabled to turn without disturbing the banks.

*Thames River* empties into the Lake St. Clair, and is navigable as far as Chatham. Some work has been done to enable vessels to enter the river without difficulty.

The lights in the vicinity of the mouth of the Thames river are the following: One at the mouth of the river on the south shore, established in 1837, and a range light, 300 feet from main light, established in 1845.

In the St. Clair river there are two lights, called the Corunna range, the front light being in the village of Corunna, on ground 10 feet above the water, at the foot of Fane street, established in 1890; and a rear light, on the west side of Beresford street, 568 feet south, established in 1890, and rebuilt in 1892.

#### LAKE HURON HARBORS.

##### ON UNITED STATES SIDE.

"Lake Huron is ill provided with natural harbors," writes Mr. Andrews in his report on lake commerce in 1852, "having none on the eastern shore, except that afforded by the entrance of a small river at Goderich. The western shore has only two or three safe places of shelter in heavy weather, the principal and best of which are Thunder bay and Saginaw bay, the latter of which contains several secure and commodious havens."

*Sand Beach*, located 60 miles above Port Huron, is a prosperous village of 1,400 inhabitants, and was first settled in 1837. Not until recent years has it made any considerable improvements. In marine circles it is best known for its harbor of refuge.

The Harbor of Refuge at Sand Beach is believed to be of as great importance to commerce as any harbor of the kind on the Great Lakes. The site was selected after careful consideration in 1872, an appropriation having been made for the purpose of establishing a harbor March 3, 1871, of



\$100,000, and the artificial harbor built there is the only safe refuge on that coast from the foot of the lake to Tawas bay, 115 miles above. The work of construction was commenced in 1873, and by 1885 the breakwaters were completed. The project under which this work was carried on provided for three sections of breakwater so located as to shelter a water area of some 650 acres, and for deepening this area by dredging where necessary. The sheltering breakwaters were completed in 1885 at a cost of \$975,000, and since that time the expenditures have been directed to keeping them in repair, dredging and supervising the burthen of vessels entering the harbor for refuge.

The harbor comprises three separate breakwaters so located as to cover and shelter the area on the north, northeast and east sides. The northerly breakwater, called the west pier, starts in shallow water 750 feet from the shore line and extends about east-southeast for a distance of 1,503 feet. The main pier commences 300 feet eastward of the end of the west pier, extends in a southeasterly direction 4,675 feet and bears the brunt of the northeasterly gales. The south pier commences 600 feet south of the southerly end of the main pier and extends 1,956 feet on a due north and south line. This arrangement provides an entrance 300 feet wide from the north, and 600 feet wide from the east. The original estimate of the cost of this work was \$1,442,500. The amount of money appropriated up to and including June 3, 1898, was \$1,336,000, and up to June 30, 1898, the amount expended was \$1,201,350. During 1877, 493 vessels were sheltered in the Sand Beach harbor of refuge; in 1880, 1,317 vessels; in 1890, 1,575 vessels; in 1896, 1,073 vessels; in 1897, 1,205 vessels.

*Port Austin*, at the mouth of Saginaw bay, is an attractive summer resort, and has a population of about 600.

*Grindstone City* is situated five miles east of Port Austin, and has a population of 500. It was established in 1862.

*Sebewaing River* flows into the eastern part of Saginaw bay. The project for its improvement adopted by the River-and-

Harbor-Act of June 3, 1896, provides for dredging the entrance channel for a distance of about 15,000 feet to a width of 100 feet and to a depth of 8 feet, at an estimated cost of \$37,000. Three appropriations from 1875 to 1896 aggregate \$20,000, of which \$15,000 has been expended.

The lake commerce of the river is about 50,000 tons annually. The village of Sebewaing, of 1,400 inhabitants, is near the mouth of the river.

The Saginaw Valley was claimed 30 years ago by its inhabitants to be the largest and most valuable tract of timbered country in the world. The head of Saginaw was famed for its fur trade in early times, and its earliest white inhabitants were two Indian traders, Louis Campau and John B. Cushway. It was first settled by agricultural emigrants about 1836, and lumbering advancement began about 1850 under the enterprise of Charles Little and others. Buena Vista, afterward called East Saginaw, was incorporated in 1859, and speedily became a shipbuilding port. The salt manufactures of Saginaw have been an industry of some importance.

In early days it was difficult to navigate the Saginaw river above Bay City. The Governor Marcy was the first steamboat to enter the river. She visited the place in 1836. The sloop *Mary* was the first trading vessel on the river. Capt. B. F. Pierce arrived in 1839 and built the first steam tug on the river. He also built the first dock. Many sawmills were erected along the river and the lumber interest grew rapidly. The first lake vessel built at Bay City was the schooner *Essex*, launched in 1860. The first regular river steamer was the old Buena Vista.

*West Bay City*, located on the west banks of Saginaw river, four miles from its mouth, is an important shipbuilding port. The F. W. Wheeler Company owns a large plant, where, for many years, both wooden and steel vessels have been constructed. James Davidson, also located at West Bay City, is one of the largest builders of wooden hulls on the lakes. The yards of these two builders employ about 2,500 men. West Bay City has a population of about 16,500

and comprises within its boundaries the old villages of Wenona, Banks and Solzburg.

*Bay City*, on the opposite side of the river, is one of the most important lumber ports on the lakes, exporting, annually, large quantities of manufactured lumber. It was formerly known as Lower Saginaw.

*Saginaw*, situated on the Saginaw river, twelve miles above Bay City, is a populous city of 65,000 people, and was formed in 1890 by the union of Saginaw City and East Saginaw. It has large manufacturing interests, and is reached by several lines of river steamers.

*Saginaw river* originally had a navigable depth of about 8 feet, being limited to this depth by the bar at its mouth, and by several shoals between its mouth and the City of Saginaw. Its improvement was begun by the Government of the United States in 1867, by dredging a straight channel through the bar at the mouth to a depth of 13 feet, which channel was completed by 1869 with a width of 195 feet. In 1882 a more comprehensive scheme of improvement was reported for the entire river, its purpose being to obtain a channel 200 feet wide and 14 feet deep from Saginaw Bay to and along the front of Bay City, and thence a channel of the same width and 12 feet deep to the head of navigation. The results of the work done are a channel 14 feet deep and mainly 200 feet wide from Saginaw Bay to South Bay City, and from there up to the head of navigation a channel 12 feet deep. An examination was made in April, 1898, to ascertain the condition of the channel between Saginaw and deep water in Saginaw bay, and it was found that the available depth at many places between Saginaw and Bay City had become reduced to 10 feet, the least depth found in the channel before Bay City, being 13 feet. A large amount of dredging is therefore necessary to regain the depths required for commerce on this stream. The appropriations for improvement began in 1866, and the aggregate amount is \$748,750. The entire amount expended up to June 30, 1898, was \$708,420.

Entrances and clearances in Saginaw river, in 1897, were 1,034; tonnage, 330,031.

Receipts by vessel at Saginaw and Bay City were 995,960 tons, including 382,852 tons of logs; 278,856 tons of grain; 162,500 tons of gravel; 67,498 tons of lumber, 54,741 tons of coal. Shipments in 1897 were 354,860, including 124,000 tons of coal; 133,690 tons of lumber, and 59,285 tons of salt.

*Tawas City*, located at the mouth of Tawas river, possesses a fine natural harbor, and has a population of 1,600.

*Au Sable* harbor is at the mouth of Au Sable river. Before any improvement was made here the Au Sable river was 150 feet wide and 5 feet deep over the bar. Above the mouth for about a quarter of a mile there were from 7 to 10 feet of water, and above this stretch there was only about 5 or 6 feet.

The project of improvement for this harbor adopted in 1879 was to obtain a channel of not less than 10 feet in depth for a width of 100 feet from Lake Huron to the State road bridge at Au Sable. While the shipments from this port were large and important, they were made principally from private piers built into the lake entirely outside the harbor, and in 1892 Gen. O. M. Poe, who had charge of the improvements, did not feel called on to recommend appropriations for further improvement by the United States Government, for the reason that he could see no fair prospect of securing permanent improvement. At that time there had been appropriated \$114,970.

The village of Au Sable has a population of 1,600. It was first settled in 1849 and was incorporated as a city in 1889.

*Oscoda* is a village of 1,300 inhabitants, and is situated near the mouth of Au Sable river. It has a good dock.

*Alpena*, situated at the head of Thunder bay and at the mouth of Thunder Bay river, was first occupied by transient fishermen, who began to arrive in the early thirties. Jonathan Birch visited the site in 1836 for the purpose of erecting a sawmill; but the Indians discouraged the enterprise and he withdrew. The village of Fremont was surveyed on the site of Alpena in 1856. A small house was built by A. F. Fletcher in 1857. In November, 1858, a small

schooner, the J. S. Minor, entered Thunder Bay river, having on board a number of prospective settlers. The first lumbering began in the winter of 1858-59. Up to that time communication between Alpena and lower lake ports had been by means of an occasional sail boat, or the upper lake steamers would land passengers on Thunder Bay island, to be conveyed to Alpena by some fisherman; but the steamer Forest Queen then began to make occasional trips to Alpena, and the little steamer Columbia soon after made regular trips to and from Bay City. The steamer Huron followed the Columbia. The population in 1860 was 290; in 1864, 674; in 1870, 2,756. In July, 1872, fire swept 15 acres of the business district, occasioning a loss of \$175,000. It was quickly rebuilt, and the population in 1874 had reached 3,964. The lumbering interests expanded rapidly, and in 1890 the population numbered 12,139 souls. It is now 15,600. In 1861 the name was changed by Act of Legislature from Fremont to Alpena. A government fish hatchery is located at Alpena, and there are large fishing interests.

*Alpena* harbor has been the subject of improvement by the Government of the United States since 1876. All appropriations prior to that date were in the name of Thunder Bay harbor or Thunder Bay river. The original depth of water over the bar at the mouth of the river was but 7 feet; but in 1871 when the first improvement by the government was made this depth had been increased by local enterprise to 12 feet. The work of improvement by the government has resulted in increasing the channel to 13, 14 and 16 feet under successive projects, and was completed in 1893. The dredged channel has a total length of about 7,000 feet. Total appropriations from 1876 to 1897 were \$51,500, of which \$41,697 was expended.

The number of vessels entering and clearing at Alpena in 1893 was 940; tonnage, 247,278; in 1896, 1,040, tonnage 272,921; 1897, 1,245, tonnage 353,982. Lake receipts in 1896 were 94,067 tons, chiefly lumber and coal; shipments, 255,687 tons,

mainly lumber. In 1897 receipts were 78,378; shipments, 293,161.

*Cheboygan* has for many years been a lumber center of considerable importance. Its first impulse toward growth was given by this interest. The name Cheboygan is said to be a corruption of the Indian word Chabwa-e-gun, meaning a place of ore. Its population in 1870 was about 800; in 1890, 6,956.

Cheboygan harbor is at the mouth of Cheboygan river, which in its original condition had a depth of six feet. In 1870 the first survey was made. The project was to dredge a channel 200 feet wide and 14 feet deep. The first appropriation for this work was made March 3, 1871, the total reaching \$160,000 June 3, 1896. To June 3, 1897, \$148,254 was expended.

Receipts of lake freight in 1896 were 163,362 tons, of which 107,236 were logs and 13,000 tan bark. Shipments were 362,011, of which 330,126 were lumber, ties, poles, etc. Receipts of lake freight in 1897 were 147,259 tons; shipments, 193,077 tons.

#### CANADIAN SIDE.

One circumstance may be noted in regard to storms on Lake Huron. The prevailing winds are from the west, the Canadian shores of Lake Huron being peculiarly open to their influence; and as the heaviest storms are from the northwest the central portion of the east coast receives the full sweep of the sea from the Straits of Mackinac, a distance of 170 miles, and the lower part of Lake Huron is open to storms from the Bay of Saginaw, a distance of 80 miles.

The only rivers which flow into Lake Huron on its eastern side are the *Saugeen* and *Maitland*, the former of which drains an area of about 1,400 square miles, and the latter an area of about 600 square miles; but owing to the nature of the soil through which they flow, they are not overloaded with debris as they enter the lake. Some of the rivers which flow into the northern side of Lake Erie carry down into that lake more detritus than do either of those entering Lake Huron from the east. This fact is



important in connection with harbor improvements on these lakes.

The Saugeen river is liable to heavy floods in the spring, that generally carry with them large masses of driftwood and great quantities of ice, which, in the earlier day, from the narrowness of the outlet, sometimes formed a dam that raised the water to an unusual height, and threatened the destruction of warehouses in the vicinity. In the spring of 1868 the water rose about 15 feet above its usual level.

At the village of Southampton the banks of the river are nearly 50 feet high, and the river from 300 to 400 feet wide, and from 1,000 feet within the piers the water varies from 3 to 7 feet; but higher up there were boulders that in times of low water became dry. At that time a pier had been carried out 600 feet parallel with the stream on the north side, and on the south side a pier had been built 350 feet long, and of a curved form, and placed diagonal to the current.

The amount expended in improving this harbor up to and including 1882 was \$8,559. During 1882 700 feet of the breakwater across the mouth of the river was reconstructed, the flooring of the west breakwater was laid; 500 cubic feet of stone on the lake side of this breakwater at its junction with Chantry island were laid, and a small breakwater was constructed, 155 feet long, opposite the lighthouse, in order to protect the island at that point.

*Bayfield* harbor is situated at the mouth of Bayfield river, which empties into Lake Huron 12 miles south of Goderich. Immediately north of this river the clay banks are 100 feet high, and south of it they are from 60 to 70 feet. The entrance as originally constructed by the municipality were each about 620 feet long and 200 feet apart at the renewed part, and 330 feet apart at the inner end. In 1874 an appropriation was made by Parliament of \$34,000 for the improvement of the harbor, the municipality of Stanley contributing \$10,000. The improvements consisted of a prolongation of the northern pier, 105 feet on the outer side, with an arm of 156 feet in length turned to the southwest, and of a pier on the south side generally parallel with the main line of

the opposite pier, 180 feet distant, and 553 feet in length, with a return to the coast line of 153 feet. The total amount expended here from Confederation to June 30, 1886, was \$68,049.

*Goderich*, the county seat of the west riding of Huron county, Ontario, and "the healthiest and prettiest town in Canada," enjoys the distinction of being the only *Harbor of Refuge* on the east coast of Lake Huron.

Goderich was founded, about 1825, by William Dunlop and John Galt, agents for the Canada Company, and was named after Lord Goderich. Situated 130 feet above the level of the lake, with two sides falling abruptly toward the lake and the Maitland river, the location of Goderich is readily distinguished at a considerable distance by vessels passing or seeking to make the port; and many a mariner in a storm or heavy gale has welcomed the sight of its towering bluffs and bright lights, knowing that in the bay, which may be said to be crescent-shaped, no better or safer anchorage can be found along the entire coast. The river, which flows into the bay on the north side of the harbor, was originally called by the Indians "Minnesetung" (*i. e.* river with islands in it), which name was changed by 1830 to Red river, and still later to Maitland river, in honor of Lieut.-Governor Maitland. The spot was in early times a well-known rendezvous for white people, in search of trade and barter with the Indians. The date of the first arrival of any sailing vessel, with pretensions to the title of "schooner," is not precisely known, although it is on record that Carver had voyaged in Huron waters during the year 1768, in the schooner Gladwyn, which vessel without doubt anchored near the Minnesetung (Maitland river). And still farther back in history it is recorded that in 1618 Champlain landed at the mouth of that, then, magnificent stream.

Huge canoes were for a long time used in bringing supplies from Detroit and taking in return pelts and furs secured from the Indians, and many amusing as well as tragic tales have been told of their voyages. In 1818, for the first time, Goderich was vis-

ited by a steam packet, the Walk-in-the-Water, and some time in the twenties the British gunboat Bee touched at Goderich, when on an exploring expedition with John Galt and Dr. Dunlop.

In an excellent work on Canada recently published, entitled "In the Days of the Canada Company, 1825-1850," we read: "In 1828 the 'Castle' and some half-dozen log cabins constituted Goderich. French and half-breeds, Indians, and a few Europeans belonging to the Canada Company, made up the inhabitants. \* \* \* Gooding's big canoe was in the harbor, and Crabb's schooner, the Mary Anne, rode at anchor there. \* \* \* The pioneers preferred the canoe called a 'dug-out.' There were three kinds of these vessels made by the Chippewas on the Flats (at Goderich)—the birch-bark, the dug-out and the elm canoe. \* \* \* One famous dug-out was a pine tree 26 feet long and 3 feet 9 inches in the beam. It could easily carry nine barrels of pork, and four or five men to paddle. \* \* \* The squaw invariably steered, and did her duty admirably. One enormous Indian canoe emerged from the fog one morning and made for the harbor, the people ashore mistaking it for a schooner. It had crossed from Saginaw Bay with 25 Indians aboard, and a load of bales of furs. There were main and top sails, with an ingenious contrivance for hoisting and lowering them instantaneously, a good precaution for stormy weather. On dark nights they fixed a bark torch in a cleft stick in the bow."

In 1827 a survey of the lake, and of the rivers running into it, was made by Captain (then Lieutenant) Bayfield, in the *Gulnare* surveying schooner, and his charts made from these surveys were in use upon the lakes until 1884, and are even yet considered fair authorities.

From "In the Days of the Canada Company" we again quote: "The bar formed at the entrance to the river by the action of the northwest wind caused the swamping of four schooners which attempted to cross. The Canada Company applied to the Legislature for permission to levy tolls on incoming vessels, in order to obtain interest on

the expenditure necessary on the harbors. The bill was thrown out, the bar increased, and the summer of 1835 saw the *Minnesetung* [the first vessel built in Goderich] laid up within, to the great cost of the company as well as the inconvenience of the settlers. Flour, in consequence, was eight or nine dollars per barrel. The company got a lease afterward of the whole harbor, and charged wharfage to those landing goods. They had the water's edge, but the river being navigable could not be made over to them. \* \* \* The second *Minnesetung* made her first round trip July 20, 1834. \* \* \* Her sailing life was short, as she was run into by a United States vessel near Fort Malden and blown up."

To Capt. T. N. Dancy, a veteran lake mariner, since deceased, we are indebted for the following graphic account of the stranding, on the night of November 24, 1864, of two American schooners, *Newhouse* and *Curtis Man*, behind the north pier: "It was one of the worst nights of the year, fearfully cold and freezing very hard. There was a crew of twenty on the two vessels, and they came within 100 feet of the beach, the water being bold to the shore. The only way we could save the sailors was to tie lines round our waists, rush out into the surf and pick them up as they fell or were washed overboard. The vessels both filled as soon as they struck the beach, leaving thereby no place but the deck for the sailors, who were so benumbed with cold that they could help themselves but very little; and it is certain that, if they had not received assistance, there would not have been a man of them living in the morning. The coast line from Cape Hurd to Sarnia is over 150 miles, and if these two vessels had stranded one-quarter of a mile either north or south from where they did, they would not have been seen or helped, and that would have been the last of the crews of those ill-fated schooners. We were five hours in the water before we got them all rescued."

Between the years 1827-35 Goderich harbor was constructed and piers built, and the harbor has been enlarged twice since—in 1868 and 1878 respectively. The en-

trance into the harbor is between two piers. On the west end of the north pier there is a red light, and on the east end there is a green light. On the south pier there is no light. The first lighthouse (a small one) was built about 1830-31, and the present lighthouse, which stands on the "Cas.le" hill (now known as "Lighthouse Point"), was erected about 1847; it has a fixed white light. The next lighthouse north is at Point Clark, 22 miles distant, and the next one south is at Sarnia, 60 miles distant. The mean depth of the water in the harbor is 17 feet, fully that at the entrance. The anchorage, as already stated, both inside and outside the bar, is excellent, and well sheltered inside.

The Canadian Government has, since the above was written, concluded to put the harbor in a condition second to none upon the Great Lakes. A contract has been awarded for building a new breakwater, turning the waters of Maitland river out to the lake farther north than formerly. The government dredge Arnoldi is now cutting out the harbor basin, their contract being to make a uniform depth of 22 feet of water from the entrance and between the piers through the basin to the new elevator. When completed, the bottom of the basin will be rock, and from the harbor construction no sediment or drift can ever enter to fill any part of it. At present the largest vessels can enter with safety, and when the entire work is completed (in 1899) this will undoubtedly be the safest and deepest water harbor upon these lakes. The new elevator of the "Goderich Elevator and Transit Co." is now completed, and is ready to receive grain. It is considered one of the best yet constructed, having all the most approved modern appliances. The capacity is nearly 600,000 bushels, and the marine leg is capable of moving easily 18,000 bushels per hour.

Some correspondence is now going on with western cities with a view of working this port all winter, of which there will be no difficulty if the Straits of Mackinac can be kept open all the year round.

Of the vessels built at Goderich the following are still sailing the lakes:

## PROPELLERS AND STEAMERS.

NAME.	TONNAGE.
A. Chambers .....	23
Clucas .....	28
Evelyn .....	32
Elite .....	22
Juno .....	28
J. H. Jones (passenger boat).....	152
Orcadia.....	23
R. B. McPherson.....	30
Susan C. Doty.....	26
Seagull .....	19
Sea King.....	26
Tommy Wright.....	12
W. H. Seibold.....	22

## SAILING VESSELS.

NAME.	TONNAGE.
Annexation.....	91
A. Shade.....	72
J. N. Scott.....	20
Nemesis.....	82
Ontario.....	150
Sephie.....	261
Tecumseh .....	207

Of the vessels built at Goderich the following are "dead":

## PROPELLERS AND STEAMERS.

NAME.	TONNAGE.
Minnesetunk (side-wheel steamer, built in 1832) .....	175
Bruce (side-wheel steamer).....	150
William Seymour (propeller).....	175
Adelaide Horton.....	125

## SAILING VESSELS.

NAME.	TONNAGE.
Agnes Ann .....	96
Sailor's Bride.....	40
Emily .....	50
Mary Watson (lost behind the north pier).....	90
Brothers (wrecked by ice).....	64
William Wallace.....	40
Lily Dancey (wrecked at Port Elgin).....	125
Maitland (a barkentine; met with a collision at Mackinaw and went to the bottom).....	230
Jennie Rumball (wrecked about forty miles north of Goderich).....	110

Names of some of the oldest lake captains belonging to Goderich: Capt. Thomas N. Dancey\*; Murray McGregor; Colin Munro; John McPherson; Finlay McPherson; John Spence; David Hay\*; Duncan Rowan; Angus McLeod\*; John Murray; Andrew Bogie; Donald McLeod; Neil McNeil; Henry Marleton\*; Christopher Crabb\*; Hugh Donnelly; Frank Tranch; Murdoch McLeod; Thomas Marks; Edward Marleton; Charles McIntosh; Peter Campbell; Alexander Campbell\*; William S. McKay\*; William McKenzie; James Bogie\*. [Those marked with a \* are deceased.]



*Port Albert* harbor is located about nine miles north of Goderich, at the mouth of Nine Mile Creek. A small pier was constructed here early by the municipality, and in 1875 the department built an arm to the pier fifty feet long at a cost of \$6,000. In 1881 and 1882 a row of close piling 300 feet long was driven from the eastern corner of the pier eastwardly, and the basin thus formed dredged to a depth of 10 feet. The total expenditure from Confederation up to 1884 was \$11,712. Repair work and extensions have since been completed.

*Kincardine* harbor is situated at the mouth of the Penetangore river, about 27 miles south-southwest from the Saugeen river, and 31 miles north of Goderich. The coast here is remarkably uniform. The banks are chiefly high and bluff, but at many places they recede from the shore with a quick slope through which the streams that drain the interior have cut deep channels, with ravines as they approach the lake. The Penetangore is one of these rivers, and although it is not a large one, yet it furnishes in its winding course a rapid descent through the village power sufficient to drive several mills.

The harbor consists of an inner basin and two lines of piers 100 feet apart, which extend out from the shore, the northern pier being, in 1856, 540 feet long, and the southern one 290 feet. The cost to the government, up to Confederation, was \$19,044, and in 1868 the sum of \$4,500 was appropriated to aid the municipality to complete the southern pier. The municipality also expended about \$23,000 in improving the harbor.

In 1869 a survey was made by which it was found that the depth of water at the entrance was from 7 to 10 feet, except for a short distance within the south pier, where it was only from 5 to 7 feet. The depth in the basin varied from 7 to 10 feet. From 1872 to 1877 the whole of the inner basin was dredged to a depth of 12 feet, and the entrance to a depth of 13 feet. Afterward dredging was continued until a depth of 14 feet was given in the basin, and 15 feet at the entrance. In November, 1881, a contract was entered into for the construction

of 790 feet of pile protection work on the south side of the south pier. The work was completed in 1882. The total amount spent, from Confederation to 1884, was \$90,921. A depth of 16 feet at low water, between the piers, was obtained in 1888, and the harbor was deepened to 15 feet below low water in Lake Huron.

In 1890 the northern pier was extended to a distance of 200 feet northwardly. In 1896 two cuts were dredged through the channel and along the north pier to a depth of 12 feet.

The lights in this vicinity are the following: The main light in the town on the hillside, established in 1881. One on the north pier 1,185 feet from main light, a fixed red light, reflector, established in 1874.

*Port Elgin* harbor is situated 24 miles from Kincardine and four from Southampton, about five miles south of the mouth of the Saugeen river. It is formed by an indentation in the shore, the bay thus formed being about three-fourths of a mile across, and is about one-fourth of a mile deep. A wharf was constructed here in 1857. This pier was 380 feet long and extended to 13 feet of water. There was a breakwater constructed 420 feet long, at right angles to the pier, and out from it about 650 feet. During the summer of 1882 a pier 600 feet in length was commenced with the view of making a harbor of refuge. Total expenditures by the Government up to 1883 from the time of Confederation were \$23,336.80. In 1888 and 1889 dredging on the bar at the entrance to the harbor was carried on to the extent of enabling vessels with a draught of 12 feet to enter. A channel 760 feet long, 75 feet wide and 13 feet deep, was opened in line with the public wharf out to deep water.

In 1890 a channel 800 feet long and 175 feet wide was dredged from inside the harbor to deep water outside, and a berth opened for vessels on the east side of the wharf.

The lighthouse is called the Port Elgin, and stands on the outer end of the Government wharf. It was established in 1884.

*Chantry Island* is a small rocky island lying one and three-quarter miles from the

mouth of the Saugeen river and about three-fourths of a mile from the mainland. It is about half a mile long, and contains an area above ordinary high water of about nine and one-half acres. The island is surrounded by reefs on the north, south and west sides. In the center of this island the government in 1839 erected a lighthouse 80 feet high, which in 1870 had a lenticular apparatus of the second order, and was visible from the deck of a vessel to a distance of about eighteen miles in clear weather.

Directly east of this island and between it and the mainland there was an area of about 267 acres, and of this space there was about 140 acres in which the depth of water was from 5 to 20 feet, the bottom of which was generally covered with boulders, yet in a few places good accommodation was furnished for vessels which enabled them to ride out gales of considerable force. In 1870 Mr. Page recommended Chantry island for a harbor of refuge. A contract was signed and the work began in 1871.

In 1856 there was constructed a breakwater, 650 feet long and having a depth of 18 feet of water at its outer end. This work was raised in 1865, and prior to Confederation there had been spent here \$31,910. The work carried on under the contract of 1871 consisted of a breakwater 1,600 feet long, extending in an easterly direction from the old breakwater at the northern end of the island. A breakwater 2,000 feet long on a curved line from the mainland to within 400 feet of the end of the pier taken out from the island, and a landing pier, were built, and a quantity of boulder stone was removed from a shoal adjoining the anchorage.

An octangular structure of timber, carried up 40 feet above the water line, was placed in 16 feet of water on the extreme point of the shoal, running southwest from the island, and a light placed upon it.

The total expenditure, from the time of Confederation to 1882, was \$235,469.

The Chantry Island lighthouse situated about two and one-half miles west from Saugeen, 86 feet above high water, was established in 1859.

*Inverhuron* harbor is situated 23 miles

from Southampton and 114 miles from Sarnia. It is about four-fifths of a mile across in a southeast direction from the north point to the opposite shore, and from this line extends inland about one-third of a mile. In 1856-57 a pier was built here about 450 feet long, the total expenditure up to Confederation being \$15,125. The pier was maintained by the municipality, and some addition made to its length. In 1874-75 the old pier was thoroughly repaired, and in 1881 additional work was done. The total amount spent was \$21,377.

*Southampton* harbor is at the mouth of the Saugeen river on Lake Huron, 143 miles from Sarnia. At the session of 1883 there was voted the sum of \$10,000 toward the extension of the pier to a length of 250 feet and to a depth of 14 feet of water.

In July, 1887, the pier at the mouth of the Saugeen river was completed, and the outer end of the landing pier was rebuilt.

In this immediate vicinity there are three lighthouses, the first named Saugeen, situated on the breakwater on the north side of the mouth of the river, established in 1883 to guide fishing boats into Saugeen river. It is a lantern on a mast. The other two lights are in the harbor of Southampton, one being on the east end of the west breakwater, 2,799 feet from Chantry Island light, established in 1877. The other light, established the same year, is on shore south of landing pier, 6,300 feet from former light.

Other lighthouses in the vicinity of the Saugeen river are the following: The Pine Tree range, each of which is a fixed white light and a lantern on a mast. They are not under the Marine Department. Lyl Island lighthouse is on the west side of the island. It was established in 1885, and is a coast light and guide to Stokes' bay, and to small boat barbor near by. Isle of Coves lighthouse, at the north point of Cove island, at the entrance to Georgian Bay, was established in 1859.

*Lion's Head* is on Georgian Bay, 35 miles northeast of Wiarton. In 1884 the extension of the pier at this place was directed. By dredging, a channel cut was made 175 feet long, 130 feet wide, to a depth of

14 feet, through a shoal behind the breakwater.

*Warton* harbor is situated on an inlet or arm of Georgian Bay, about 20 miles northwest of Owen Sound. Most of the work of improvement done here has been in recent years. In 1882 there was voted for the improvement of this harbor the sum of \$35,000, the corporation of Warton, and the Grand Trunk, Georgian Bay and Lake Erie Railroad Company agreeing to contribute \$7,500 each. On the 26th of September, 1882, a contract was entered into for the construction of a wharf, 1,040 feet long, with from 14 to 18 feet of water along its face, the contract price being \$42,500. From Confederation down to 1883 there had been spent \$55,232.

In 1889 a contract was made for the construction of a breakwater 380 feet long and 25 feet wide, near the head of the harbor. In 1890 this breakwater was extended 220 feet.

The lighthouse, named Warton, and situated near the outer end of the breakwater, was established in 1891.

*Colpoy's* harbor is situated on the west side of Colpoy's bay, three miles north of Warton. In 1880 the inhabitants of the village built a pier 123 feet long, with a depth of 9 feet of water at the outer end, and in 1893 the municipality built an additional 118 feet to the pier. During the fiscal year ending June 30, 1894, the government further extended the pier at the outer end.

*Owen Sound* harbor is on the Sydenham river, which flows into the head of Owen Sound, an arm of Georgian Bay. This town is the terminus of the Toronto, Grey & Bruce railway, and the center of an extensive agricultural district. The harbor here was formed by the municipality of Owen Sound prior to Confederation, and in 1856, and also in 1866, small grants were made by the government to assist in improving the channel of the Sydenham river from its mouth up to the town of Owen Sound.

In 1874-75 there was expended \$10,367 in making a generally straight channel, 150 feet wide, from the wharf at the foot of Peel street, to the outer light, a distance of

three-fourths of a mile. The depth of water obtained was 10 feet at low water. In 1876 and 1877 a channel was dredged from the dry dock a length of about 2,000 feet, to a point just outside the outer light. This channel had a width of 150 feet and a depth of 12 feet, and cost \$6,589. In 1879 a narrow channel, 65 feet wide and 14 feet deep, was dredged. In 1882 there was voted the sum of \$8,000, and in 1883 \$5,000 to dredge the harbor to a depth of 16 feet. The total sum expended, from Confederation to 1884, was \$74,710. Of this amount the town of Owen Sound contributed, according to agreement, \$13,000, in order that there might be obtained a depth of water sufficient to accommodate the largest vessels navigating Lake Huron.

At the session of 1884 a depth of 16 feet was obtained. Dredging was done later to the extent of 2,400 feet in length to a width of 60 feet, and to a depth of 16 feet 5 inches at low water.

The construction of sheet-pile revetment work in front of the Esplanade, on the west side of the harbor, a distance of 1,550 feet, was completed in 1896.

The lights on Owen Sound are the following: Griffiths Island light, on the north-east side of the island, 17 miles from the town of Owen Sound, established in 1859. Presqu' Isle light, near McKenzie's wharf, Owen Sound. Front range light, on pile work on east side of the mouth of Sydenham river, established in 1883, and removed to its present location in 1895. Rear range light, on pile work 915 feet from front light, established in 1895.

There is another light considerably farther north, called the Cabot Head light, on top of the cliff, Cabot Head, about half a mile eastward from the entrance to Wingfield basin. Surprise Shoal bell buoy, in 36 feet of water, is just north of the nine-foot patch at the west end of Surprise shoal, between Cabot Head and Cape Croker, a red iron buoy surmounted by an open frame holding bell, which is rung by the action of the waves.

*Meaford* harbor is on the southwest side of Georgian Bay, 18 miles from Collingwood and 20 miles from Owen Sound. Prior to



Confederation there was constructed a pier 500 feet long, and having a depth of 14 feet of water at its outer end. This was built by the local authorities, aided by the government. During the years 1874 and 1875 this pier was extended 600 feet and an arm 200 feet was built in a northeasterly direction. The total harbor expenditures from Confederation to 1885 were \$45,485. A channel 675 feet long, 50 feet wide and 15 feet deep was obtained in 1892.

The lighthouse at Meaford, located on the outer end of the pier, was established in 1878.

*Thornbury* harbor is situated at the mouth of Beaver river, which empties into Georgian Bay, 13 miles from Collingwood. Work done there in earlier years by residents of the locality was later permitted to fall into decay. In 1881 Parliament voted \$7,000 to reconstruct the pier and to dredge a basin 100 feet wide and 10 feet deep on the eastern side. The town of Thornbury also voted \$7,000 to carry on the work, which was placed under contract. Up to 1884 there had been spent here \$21,286. A channel has been dredged through the hard pan and stones at the harbor entrance to a depth of 13 feet. In May, 1893, the landing pier was greatly damaged by a severe storm.

In 1895 a cut was made 900 feet long, between the piers and into the harbor, leaving a depth of 15 feet for a distance of 700 feet, and 10 feet the remaining 200 feet, the width of the cutting varying from 100 feet at the entrance to 50 feet in the harbor.

The lighthouse at Thornbury, situated on the outer end of the west breakwater pier, was established in 1887.

*Collingwood* harbor is on Nottawasaga bay, which is on the southern shore of Georgian Bay, 94 miles from Toronto. It is an important town, the terminus of the Northern and Hamilton & Northwestern railways. The trade is principally in grain and lumber. The lighthouse erected here prior to Confederation was completely swept away in a storm, in 1872. The pier was also swept away by the same storm. In August, 1873, the work of reconstruc-

tion was commenced, and was completed in 1874, at a cost of \$57,468, one-half of which was paid by the government, one-fourth by the Northern Railway Company, and one-fourth by the town of Collingwood.

The work consists of a breakwater and pierhead 700 feet long, and a lighthouse, all of unusual strength. The cribs recede to 19 feet six inches at water-line, the point where the slope commences, to five feet below water-line, and the angle is protected by boiler plate. The portion above water is carried up to the height of six feet, and is 12 feet and six inches on the top. The eastern end terminates in a broad pier-head, 60 feet long by 80 feet wide, on which is erected the lighthouse. The depth of water in the harbor was 11 feet, but as vessels navigating Lake Superior required deeper water, it was dredged in 1879 and following seasons to a depth of 14 feet.

In 1882, with the view of accommodating the largest vessels on the lakes, a contract was entered into for the construction of 600 feet of breakwater extending northward from the north wharf. In November, 1883, a contract was entered into for a further extension of 600 feet. The total expenditure from Confederation to this time was \$139,371. In March, 1885, a contract was made for building the final length of breakwater for \$101,000. At the Session of 1885 \$24,000 more was voted for the breakwater extension of 600 feet.

The lighthouses in this vicinity are the Nottawasaga Island lighthouse, two miles northwest of Collingwood harbor, established in 1859. Collingwood breakwater lighthouse is on the outer end of the west breakwater pier, established in 1858. Collingwood Lighthouse, located at the turn of the dredged channel in the harbor, was established in 1884 and rebuilt in 1894.

*Penctanguishene* harbor is situated on the north end of the eastern peninsula of Georgian Bay, formed by the waters of the Nottawasaga bay and the Severn river. During the summer of 1880 dredging was done at the western point south of the Reformatory wharf, and to the north of the wharves at the village, to give a depth of 16 feet in the channel. In 1888-89 a

pile structure was constructed 850 feet long and 12 feet wide, at an average depth of 12 feet of water. Behind this structure an embankment was formed with brush, stone and earth, giving to the wharf, so completed, a width of 42 feet. In addition to this wharf a similar structure 350 feet long was built at the foot of Barrie street. This harbor is the terminus of one of the branches of the Grand Trunk railway, on Georgian Bay, and a large amount of lumber is shipped to this point for distribution. In August, 1889, the harbor improvements were completed, dredging being carried on during the year with the view of securing a greater depth of water, which is now 16 feet.

The lights in this vicinity are the following: Penetanguishene, on the outer end of Reformatory pier, established in 1876. Whisky Island light, at the entrance to Penetanguishene harbor, established in 1882. Gin Island, on the west side of Beausoleil island, established in 1875. Giant's Tomb, established in 1893. Hope Island, established in 1884. Christian Island, on Bar Point, established in 1859, and Western Islands, on Double Top rock, established in 1895. The Gin Island light is for guiding vessels into Penetanguishene and Midland harbors.

*Midland* harbor is at the head of Gloucester bay, an arm of Georgian Bay, Midland being the Georgian Bay terminus of the Grand Trunk railway. In 1883 \$10,000 was voted toward dredging to the depth of 17 feet at low water, in front of a proposed new railroad wharf. In 1890 there was completed 2,000 feet of wharf front. A shoal of hardpan and boulders was dredged out at the entrance to the harbor, seven adjoining cuts being made, 96, 175, 225, and four, each of 300 feet in length, each cut being 24 feet wide and 17 feet deep. The dredge also made four cuts in front of Playfair's mill, 200, 250, 325 and 400 feet long, 20 feet and 10 feet deep.

In 1896, in front of the Grand Trunk Railway wharf, a cut was made 300 feet long, and on the west side of the wharf, a cut 150 feet, each 25 feet wide and to a depth of 15 feet, at low water. Alongside the Esplanade a cut was made 300 feet long

and to a depth of 14 feet. In front of Thew's mill a cut was made of 450 feet long by 40 feet wide, and to a depth of 9 feet.

*Parry Sound Narrows* are situated respectively seven miles and two miles south of Parry Sound, and form a portion of the channel called the North or Inner channel of Georgian Bay, usually taken during heavy weather and in autumn by steamboats plying between Midland, Penetanguishene and Parry Sound. At low water both these channels were formerly impracticable for boats drawing more than 5 feet of water, and it often happened that regardless of the weather they were obliged to take the outer channel. To obviate this difficulty the government in 1892 began the work of improving them, so that there might be a depth of 8 feet at low water in Lake Huron. This work was commenced in June, 1891, and it was found exceedingly difficult at Two Mile Narrows, the shoals consisting of the hardest kind of conglomerate granite. Hand drills were found useless, and so steam drills were procured and put to work June 30, and a channel procured 67 feet wide and 8 feet deep. A channel was also obtained at Seven Mile Narrows 50 feet wide and 7 feet 9 inches to 8 feet deep.

Red Rock lighthouse is at the entrance to Parry Sound, and was established in 1870.

In Parry Sound are the following light-houses: Snug Harbor range, one on the westernmost Walton island, established in 1894, and the other on the southern extremity of the island on the north side of the entrance to Snug harbor, 3,100 feet from the preceding. It was established in 1894.

Jones Island range consists of two lights, one on the summit of the northernmost Gordon rock, established in 1894, and the other on the southwest point of Jones island, 8,700 feet from the preceding, established in 1894.

Hugh Rock light is on the summit of the rock at the junction of Albert channel with the main channel. It was established in 1894.

Besides the above Parry Sound lights there are the following on Georgian Bay, in the vicinity of Parry Sound. Point Au Baril

lights, two in the range; front range light is on the southern extremity of the point, close to the water. It was established in 1889. The other, or rear range light, is on the summit of the island, 4,800 feet from the preceding, and was established in 1889. Gereaux Island light is on the south side of the entrance to Byng inlet. It was established in 1870, but moved to its present location in 1885. Lone Rock Bell buoy is 300 feet from the rock, Wabuno channel. It was established in 1889.

Byng Inlet range lights are two in number, the front range light being close to the south side of the channel, three-fourths of a mile from Gereaux Island light. It was established in 1890. The rear range light is 1,520 feet from front light. It was established in 1890. Bustard Rocks main light is on a rocky islet two and one-half miles southwest of the entrance to French river. It was established in 1875, the building being rebuilt in 1893. Bustard Rocks Inner range light, front, is 229 feet from the preceding. It was established in 1875. Bustard Rocks Outer range light, front, on the rocks 193 feet from Bustard Rocks (main) light. It was established in 1893.

The French River lights are two in number, the first being on Lefroy island, on the west side of the mouth of the river. It was established in 1875. The other light is near the creek on the east side of the river, 4,300 feet from light in Lefroy island, and was established in 1875. Lonely Island lighthouse is on the summit of the north bluff, at the north side of the channel leading into Killarney harbor from the eastward. It is 195 feet above high water, and was established in 1870.

Killarney East, or Red Rock Point, lighthouse, is one mile east of Killarney. It was established in 1866. Killarney West, or Partridge Island, lighthouse is one mile northwest of Killarney, and was established in 1866.

*Wilson's Rock* is in Georgian Bay, about 35 miles from the Sault Ste. Marie, and eight miles above Neebish Rapids. A block of crib work with a beacon thereon was completed in 1884.

*Clapperton* channel is obstructed by Robinson's Rock, which is situated in the main passage between Clapperton and Crocker islands, 17 miles northward from Little Current, and about a mile from Clapperton light. The rock is a red granite reef, having an area of about 600 feet, the whole of which had to be blasted and removed. Work began June 1, 1892. There is a light on the north point of Clapperton island, established in 1866.

*Little Current* is the channel between La Cloche and the Great Manitoulin islands, and is on the direct route from ports on Georgian Bay to Sault Ste. Marie, 140 miles from Collingwood. Owing to the existence of a rocky ledge the navigable channel was much narrowed and intricate of navigation, so much so that heavily-laden vessels were obliged to take the outside passage through Lake Huron, which in the fall of the year is very dangerous.

In May, 1881, the work of removing this rocky ledge was commenced. The rock removed was deposited between Manitoulin and Spider islands, reducing the current in the steamboat channel, the water afterward running northeast of Spider island where the water is wide and deep. The channel was, in 1893, made 200 feet wide, and an average depth of 13 feet was secured.

In the vicinity of Little Current there are two range lights—the south light being close to shore, between the docks in the village, established in 1866, and the north light, on the eastern extremity of Spider island, 1,350 feet north, three-fourths west of the south light, established in 1866.

Narrow Island light, located on the west end of the island, was established in 1890.

Besides the lighthouses already mentioned as being in the North Channel, there are the following: Manitowaning lighthouse, on the hill in the village, Grand Manitoulin island, established in 1885. Strawberry Island lighthouse, on the northernmost point of the island, established in 1881. Kagawong lighthouse, at the foot of Mudge bay, 75 feet back from shore, and 100 feet west from the dock, established in 1888. Boyd Island lighthouse, on



a small rock near Boyd island,  $1\frac{3}{4}$  miles from the Spanish River Lumber Company's mill, on Aird island, established in 1885. Gore Bay lighthouse, on Janet head, established in 1879. Cape Robert lighthouse, on the northern extremity of the cape, established in 1885. Mississauga Island lighthouse, on the south end of the island, established in 1884.

*McInnis Bank*, Mudge bay, lies directly in the course of vessels taking either the inside or outside channel of Clapperton island, the shoal consisting of a nest of boulders covering a space 300 feet long and 100 feet wide. Work was commenced in 1892.

*Thessalon* is located on the north side of North channel, Lake Huron, in the Algoma district. On April 3, 1895, a contract was entered into for the construction of a landing pier at this place. The superstructure was to be 325 feet in length, and to have an approach of stone work 80 feet long, the whole length thus to be 405 feet.

The light station here, *Thessalon River*, is located on the east side of the mouth of the river. It has a fixed white light, reflector.

Other lights in this vicinity are the following: Sulphur Island light, on the south end of the island, established in 1869. Bruce Mines light, on the outer end of the wharf. North Sister Rock light, east side of the channel, established in 1885. Bamford Island light, on the eastern extremity of the island, one-half a mile southwest of Wilson's channel, established in 1885. Richards Landing light, on the outer end of wharf, established in 1894. Shoal Island light, on the northern extremity of the island, and south side of the channel, established in 1885.

#### LAKE MICHIGAN HARBORS.

Lake Michigan alone of all the Great Lakes lies wholly within the United States. At the Straits of Mackinac, which separate the lake from Lake Huron, lie two historic points, Mackinaw and St. Ignace.

*Mackinaw City* has a population of 700, and is well known as a summer resort. It

is seven miles distant from the picturesque Mackinac island.

At *Point St. Ignace*, across the strait from Mackinaw City was founded a mission by Marquette in 1671, and two years later the French built a fort there. In 1714 a fort was built at "Old Mackinaw" on the south side of the straits, the post at St. Ignace having been abandoned several years earlier. The village of St. Ignace was organized in 1882. It now has a population of 1,000. A railroad transfer ferry connects Mackinaw and St. Ignace during both summer and winter.

*Petoskey* is one of the best known summer resorts in Michigan. It bears the name of an old Indian chief, who once held sway in that vicinity. Petoskey was incorporated as a city in 1896 and has a population of 3,700.

*Petoskey harbor* is situated on the southeast shore of Little Traverse bay, and its water front is wholly exposed to winds coming from the west and northwest, and when high gales with a sweep of more than 100 miles across Lake Michigan blow from that quarter it is dangerous to attempt to make a landing in that vicinity. The question of improving this condition of affairs was first provided for in the River-and-Harbor Act of July 5, 1884, which directed an examination to be made with a view of constructing a harbor of refuge there. While the conclusion arrived at was that a harbor of refuge was not needed there, yet it was necessary to provide a safe landing for vessels engaged in an extensive local commerce. Work with this object in view was commenced in 1895. The object in view was the construction of an outer and detached work so designed as to shelter the landing and if possible to furnish additional area within which vessels could take shelter on occasion. The work comprises the west breakwater, commences 220 feet from the shore in about eight feet of water, extending 600 feet and terminating in about 29 feet of water; the north breakwater commencing at a point 150 feet easterly from the outer end of the west breakwater, and extending a distance of about 500 feet.

By the close of the fiscal year ending

June 30, 1898, the work as above described was nearly completed. The appropriations made, four in all, amounted in the aggregate to \$53,000; and expenditures to June 30, 1898, were \$51,731.

The total number of vessels entering and leaving this harbor during the year 1895 was 4,360, with a tonnage of 28,000; 1896, 3,156 vessels, 24,000 tons; 1897, 4,362 vessels, 91,600 tons; tons of freight received by vessel in 1896, 14,608; shipments, 7,412 tons; receipts by vessel in 1896, 13,670 tons; shipments, 15,486 tons; 1897, receipts, 15,643; shipments, 4,690 tons.

*Charlevoix*, which commemorates one of the early French missionaries on the Great Lakes, is a flourishing summer resort containing 2,500 inhabitants.

Charlevoix harbor is situated on Round lake, which originally connected with Lake Michigan by a narrow stream about one-third of a mile long and named Pine river, through which boats drawing from 2 to 3 feet of water could pass. Local enterprises aided by a land grant from the State had improved the natural conditions prevailing here to the extent of obtaining a depth of 11 feet of water and building short piers at its outlet into Lake Michigan, and an entrance had been obtained which was 6 feet deep. This was the condition of things when the Government of the United States took hold of the work in 1877 under an Act which appropriated \$10,000 to the work. The project was to obtain a dredged channel 100 feet wide and 12 feet deep through Pine river to Round lake.

The total appropriations to June 30, 1898, amounted to \$140,500. The amount expended on the work up to June 30, 1898, was \$127,340. The year 1894 was a remarkable one for the commerce of Charlevoix harbor, there having been 1,701 vessels enter and leave there, with a total tonnage of 338,015 tons. In 1895 the number of vessels entering and leaving was but 528, and their total tonnage was 92,387; 1896, 420 vessels, tonnage 75,265; 1897, 545 vessels, tonnage 110,474. Receipts by vessel in 1896 were 8,137 tons; shipments, 175,641

tons; receipts, in 1897, 24,011 tons; shipments, 110,225 tons.

*Traverse City*, situated at the head of the west arm of Grand Traverse bay, at the mouth of Boardman river, is a city of 9,000 inhabitants, and is a popular summer resort. The site was a favorite camping point for Indians, and permanent white settlers arrived in 1851. The city was incorporated in 1895.

*Manistee* was first settled about 1846, and was incorporated as a city in 1869. The name is of Indian origin, signifying "river at whose mouth there are islands."

Manistee harbor is at the mouth of Manistee river, to which local enterprise had opened an entrance for vessels drawing seven feet of water, by the construction of slab piers on each side of the mouth of the river. This was also the limit of depth that could be carried over the bars of the river until deep water was reached in Manistee lake, about one and three-quarters miles from Lake Michigan. Systematic work was commenced here by the Government of the United States in 1867, to construct two parallel piers of crib work extending about 960 feet into Lake Michigan to the 12-foot curve. In 1890 the scope of operations was extended to include dredging a channel 15 feet deep throughout the length of Manistee river, a distance of about 8,000 feet from Lake Michigan to Lake Manistee, and to extend the north and south piers respectively, to the 18- and 14-foot curve in Lake Michigan, with a view of maintaining that depth of water at the entrance to the harbor.

Appropriations for improving the harbor at Manistee have been as follows:

1867, \$60,000; 1870, \$20,000; 1871, \$9,000; 1872, \$10,000; 1873, \$10,000; 1874, \$10,000; 1875, \$25,000; 1876, \$14,000; 1878, \$15,000; 1879, \$10,000; 1880, \$10,000; 1881, \$10,000; 1882, \$15,000; 1884, \$10,000; 1886, \$10,000; 1888, \$10,000; 1890, \$50,000; 1892, \$50,000; 1894, \$12,000; 1896, \$15,000; total, \$375,000.

The entire amount of money appropriated was \$375,000; expended, \$361,858. The number of vessels that entered and left this harbor during the year 1895 was

3,054, with a tonnage of 930,645; freight received by water, 78,761 tons; shipped, 596,846 tons; vessels arriving and clearing in 1896, 2,355; tonnage, 643,048; 1897, 2,371; tonnage, 666,000. Freight receipts in 1896, 32,800 tons; 1897, 24,542 tons; freight shipped in 1896, 495,444 tons; 1897, 551,066, of which 338,913 consisted of lumber and 196,027 of salt.

*Frankfort.* — Charles Burmeister, of Frankfort, in a "Short History of Benzie County," has related how the first sail craft entered Frankfort harbor. He said: "A rather peculiar incident brought Frankfort to the notice of 'outsiders.' Mr. George W. Tift, a wealthy vessel owner of Buffalo, sent his vessel on a trip to Chicago in the season of 1854. We cannot ascertain the name of the craft, but she was commanded by Captain Snow. The craft was caught in a terrible gale abreast of this place, and became nearly unmanageable and was drifted towards the beach. The mouth of the Betsey river was seen between the green timber growing on both sides, and knowing that his craft was fated anyway, Captain Snow ordered all sail hoisted, and headed her for the mouth of the river, taking his chances of grounding on the bar. Fortunately the water was of sufficient depth to float his craft, and she sailed safely into the river. This was the first vessel to enter Frankfort harbor. Mr. Tift, learning of the splendid location, bought land extensively in 1859, and settlement soon after began."

Previous to 1867, when the United States Government took up the work of improving this harbor of Frankfort Lake (Lake Aux Becs Scies) the natural outlet of this lake had been slightly improved by local enterprise, and a narrow channel had been obtained with a depth of from three to four feet. The first appropriation for this improvement was made under the River-and-Harbor Act of June 23, 1866, and was \$88,541. The project was to dredge a straight channel from lake to lake 750 feet south of the old outlet, and to protect it by revetments and piers 250 feet apart and extending to the 12-foot curve in Lake Michigan, the object being to establish a reliable entrance channel with a navigable depth of 12

feet. This project was afterward modified, and in 1892 work was proceeded with by which the crib work in the north pier would be 1,002 feet long, and, in the south pier, 1,250 feet long. The total number of appropriations made for this work up to and including that of June 3, 1896, was 23, and the aggregate amount appropriated was \$348,659. In addition to the pier extensions made by the United States Government the Toledo & Ann Arbor Railway Company, under authority of the Secretary of War, issued January 10, 1896, added 400 feet to the south pier extension at its own expense for the protection of its translake car-ferry service.

The number of vessels entering and leaving this harbor during the year 1895 was 1,182, with a tonnage of 412,951; in 1896, 1,374 vessels, tonnage 509,277; 1897, 1,714 vessels, tonnage 706,546. During 1897 freight receipts by vessel were 25,367 tons, shipments 556,450 tons. The car ferries between Frankfort, Mich., and Kewaunee, Wis., also carried, in 1897, 16,639 freight cars, weighing 224,627 tons.

*Harbor of Refuge at Portage Lake.* — The necessity for a harbor of refuge at this point had long been recognized before work was begun upon the project. The peculiar adaptability of Portage lake led to its selection for this purpose as early as 1878. The River-and-Harbor Act of June 18, of that year, directed that a survey and estimate of the cost should be made with this end in view. The conditions then existing were a dangerous coast line extending 175 miles from Grand Haven to Traverse Bay, Mich., with no intermediate harbor into which vessels could safely attempt an entrance for shelter from gales on Lake Michigan. Upon survey Portage lake was found to include nearly four square miles where the water was from four to seven fathoms deep; it was landlocked except where it was connected with Lake Michigan by an artificial ditch, in which the water was only four feet deep; but the distance between the 18-foot depths in the two lakes was only 2,000 feet.

The project thereupon adopted was to dredge a channel 18 feet deep from Lake Michigan to Portage lake, and to project it



by parallel piers and revetments 300 feet apart. The first appropriation for this work was made March 3, 1879, and the aggregate amount is \$150,000. Expenditures to June 30, 1898, \$141,223.

At the close of the fiscal year ending June 30, 1897, the north pier was 1,493 feet long, of which length 1,342 feet were of pile work, and 151 feet of crib work. This pier projected 560 feet into Lake Michigan. The south pier and revetment had a total length of 1,380 feet, and projected 350 feet into Lake Michigan. The harbor is very much needed for the general commerce frequenting that portion of Lake Michigan; but this can not be obtained until the harbor piers reach the 20-foot curve in Lake Michigan, and they now end at the 10-foot curve. The work done during the past two years has simply restored the piers to the condition in which they were more than ten years ago, and unless they are now prolonged to deep water the whole expenditure of nearly \$150,000 will have been useless.

*Ludington* was known in earlier years as *Pere Marquette*. Under that name it was incorporated in 1867, but became the city of *Ludington* in 1874. Its population in that year was 2,177. It was 8,242 in 1890, and is now about 9,000. It is the eastern terminus of the F. & P. M. car ferry line.

At this place private enterprise undertook to improve the harbor by making a narrow channel seven feet deep from Lake Michigan to *Pere Marquette* lake, and maintained it for several years. The United States Government commenced work in 1867, with the view of enlarging the channel to a width of 200 feet and to a depth of 12 feet, and protecting it by piers projecting into Lake Michigan, at an estimated cost of \$270,682.

In 1885 a project was adopted for establishing a harbor of refuge here with a depth of 18 feet and by replacing the south pier by a new one 200 feet farther south, so as to increase the width of the channel between the piers to 400 feet. But this harbor-of-refuge plan was in 1890 transformed into one which contemplated a channel 18 feet deep and 250 feet wide

at the entrance without changing the existing width between piers already built. Work thereon was promptly commenced, and in 1891 500 feet was added to the north pier and 700 feet to the south pier. A depth has been maintained at from 14½ to 16½ feet.

The first appropriation for this work was made in 1867. The aggregate amount appropriated was \$388,435; total expenditures to June 30, 1898, \$380,880.

The work here June 30, 1898, was as follows: North pier, 1,452 feet long, projecting 930 feet beyond the shore line; south pier, 2,381 feet, projecting 1,550 feet.

Receipts by lake in 1896 were 356,676 tons, chiefly flour and grain; shipments 375,687 tons, including 188,450 tons of salt. Receipts in 1897 were 454,860 tons; shipments 497,744 tons.

*Pentwater*.—The early industrial activity of Oceana county, Michigan, of which *Pentwater* is the port, consisted chiefly of lumbering. The branches of *Pentwater* river were used to transport millions of feet of logs to the mills, thence to be carried by lake to distant markets. The lumbering interests are passing away, but *Pentwater* lies in the fruit belt, and horticulture flourishes in that vicinity.

Originally there was an unnavigable connection between Lake Michigan and *Pentwater* lake, which was improved by local enterprise in such a way as to afford a narrow 4-foot channel. Work commenced in 1867, and the project of improvement then adopted has been followed without modification until the present time, and has aimed at increasing in the channel the depth of the water to 12 feet, and to a width of 150 feet.

The first appropriation was made in 1867. The total amount appropriated has been \$248,820; expenditures, \$241,668.

The works here on June 30, 1898, were as follows: North pier, with a total length of 2,223 feet, the pier projecting 610 feet beyond the shore line; south pier, 2,115 feet, and projecting 610 feet beyond the shore line. The depth of water in the channel was 9½ feet.

Vessels entering and leaving the harbor

during 1895 were 500, with a tonnage not reported. The year 1891 appears to have been the most prosperous for this harbor, as during that year 1,140 vessels entered and left the harbor with a total tonnage of 71,260. The freight received by vessel during 1895 was 628 tons, and the freight shipped 17,719 tons, of which 11,200 tons were lumber. In 1896 740 tons of freight were received and 16,350 tons shipped, and in 1897 1,945 tons were received and 28,820 shipped.

*White Lake* harbor is at the outlet of White lake into Lake Michigan. Originally there was only a narrow and crooked outlet which was improved by private enterprise so as to permit vessels drawing about 5 feet of water to enter; but the government abandoned this channel and a straight cut was dredged from lake to lake.

The first appropriation for this work was made in 1867. The aggregate amount appropriated is \$289,550. The work done up to 1898 was a north pier 1,515 feet long, projecting beyond the shore line 365 feet, and a south pier of 1,854 feet, projecting 630 feet beyond the shore line.

The total number of vessels that entered and left the harbor during 1895 was 281, with a tonnage of 34,574 tons; 1896, 245, tonnage, 27,962; 1897, 247, tonnage, 33,409. Receipts by vessel in 1896 were 9,158 tons; shipments, 62,412 tons. Receipts in 1897, 84,528 tons; shipments, 81,701 tons.

*Muskegon*.—In 1812 John Baptiste Re-collect occupied the mouth of Bear lake as a trading post, and other trading posts soon followed in the vicinity. The land was brought into market in 1839, and a village plat was made ten years later. The first sawmill on Muskegon lake was built in 1837 by Benjamin H. Wheelock. The harbor at the mouth of Muskegon river and lake remained in its natural condition until 1863, when improvement was begun by the Muskegon Harbor Company. The water had previously ranged from 4 to 6 feet. The current of the river is so strong that the channel never freezes over. The city was incorporated in 1869. Its population in 1874 was 8,505, and in 1890, 21,141. Mus-

kegon is an Indian word which signifies "marshy river" or "wet prairie."

Muskegon harbor is at the outlet of Muskegon Lake into Lake Michigan. Private enterprise began improvements here, and improved the natural outlet of Muskegon Lake by building revetments and slab piers extending into Lake Michigan, whereby a depth of 13 feet was obtained in the channel so protected; but entrance was obstructed by a bar, over which the best channel was originally from 6 to 7 feet in depth.

The United States Government commenced operations in 1867 with a view of remodelling the old piers and extending them to deep water beyond the bar. Afterward the piers were prolonged as became necessary by the steady lakeward progress of the bar. In that way a channel 12 feet deep was maintained between the piers, but it was only 180 feet wide, and considered dangerous.

In 1882 this difficulty was remedied by building extensions on the north pier in a line 300 feet from the south pier, and connecting the old and new lines by an oblique wing of crib work 330 feet long. In 1892 the project of improvement provided for a channel with a navigable depth of 15 feet.

The first appropriation was made in 1867, and the aggregate amount appropriated is \$464,000.

Lake receipts at Muskegon in 1896 were 186,046 tons; shipments, 109,795 tons. In 1897 receipts were 245,721; shipments, 278,733. During 1897 a new car-ferry line was established between Muskegon and Milwaukee.

*Grand Haven*.—The commerce of Grand Haven began in 1825, in which year Rix Robinson, agent of the American Fur Company, established a trading post at the mouth of Grand river. The first dock was built in 1835. In 1836 the Gilberts built a large scow to supply the Buffalo steamers occasionally calling for cord wood. The first vessel employed regularly in the lumber and passenger business between Grand Haven and Chicago was the schooner St. Joseph, which arrived in 1836 from Buffalo. Grand Haven was the gateway by which the early pioneers entered the country. It

was incorporated in 1867. Its population in 1874 was 4,363, and in 1890, 5,260. Grand Haven was formerly known as Ot-tawa, an Indian name signifying "traders," and applied to the powerful tribe that once occupied northwestern Michigan. The name was changed to Grand Haven in 1863.

*Grand Haven* harbor is at the mouth of Grand river, which in its natural condition has a shifting channel with a depth of nine feet at its mouth. The first steps toward the improvement of this harbor were taken by the Detroit, Grand Haven & Milwaukee Railway Company, but systematic work was not undertaken until the United States Government took hold in 1867. The operations of the government have resulted in the establishment of a harbor that not only satisfies the necessities of an extensive local commerce, but gives to general commerce its only harbor of refuge from westerly gales on this coast south of Grand Traverse bay.

The project adopted by the United States Government had in view the protection of the entrance of the harbor by piers projecting into the lake. The out-flow of Grand river has done much toward keeping this necessary depth between the piers, and it also carries sand out into the lake until its velocity is sufficiently reduced to permit this sand to be deposited in the open lake, and to form a bar in advance of the entrance.

The first appropriation for this improvement was made in 1852, and the aggregate amount appropriated to 1898 was \$759,366. At this time the works here were as follows: North pier and revetment, with total length of 3,538 feet, and projecting beyond the shore line 1,512 feet; south pier and revetment, with a total length of 5,774 feet, and projecting 1,680 feet beyond the shore line. The available channel depth was 17 feet.

The year 1888 appears to have been the most prosperous one experienced by this port, there having been that year a total of 1,508 entrances and clearances, with a total tonnage of 1,405,600 tons. In 1897 1,151 vessels arrived and departed, having

a tonnage of 1,018,805. In 1896 receipts were 141,972 tons; shipments, 31,197 tons. 1897, receipts, 102,550 tons; shipments, 25,063 tons.

*Grand River.*—From 1881 to 1884 \$50,000 was appropriated for Grand river, and expended in excavating a channel four feet deep through the shoal crossings below the city of Grand Rapids. The channels dredged have maintained themselves, but the work did not extend a sufficient distance down the river to materially improve navigation.

The existing project, adopted by Congress in the River-and-Harbor Act of June 3, 1896, provides for dredging a channel from Grand Haven to Grand Rapids with a depth of ten feet and bottom width of 100 feet. The distance by river from the piers at Grand Haven to the foot of Ganoes canal in Grand Rapids is 40 miles.

The estimated cost of this work is \$670,500. An appropriation of \$50,000 by the River-and-Harbor Act of June 3, 1896, is being expended in excavating a channel way with a minimum depth of five feet and bottom width of 30 feet.

During 1896, 282 vessels, with a tonnage of 46,750, entered Grand river. Receipts were 39,738 tons of pig iron. Expenditures, 7,110 tons of brick, wood, pig iron, etc.

*Holland* was first settled in 1847 by a band of religious pilgrims from Holland. The colonization was led by Rev. A. C. Van Raalte. The village was incorporated in 1867. It was visited by a disastrous fire October 8, 1871, the date of the Chicago fire. The flames originated in the adjoining timber tracts, and a fierce gale from the south drove the conflagration into the city. Three hundred and fifty-eight buildings and several vessels were burned. The loss reached \$900,000, and there was scarcely any insurance. The work of rebuilding began at once, but recuperation for many years was slow. The population of Holland in 1874 was 2,469, in 1890, 6,307. It is now estimated at 7,000.

The first steps toward the improvement of Holland harbor, situated on Black lake, about five miles from the present harbor, were



taken by the citizens of Holland by opening a channel having a navigable depth of about 5 feet from Black lake into lake Michigan, and by protecting this channel by piers and revetments made of brush and stone. The improvement was taken in hand by the United States Government in 1867, the structures then existing being strengthened by piles and crib work, and being extended until in 1880 the north pier and revetment had attained a length of 1,850 feet, and the south pier a length of 1,675 feet.

The first appropriation for this work was made in 1852. The aggregate amount appropriated is \$304,615.

The condition of the work June 30, 1898 was as follows: North pier, 1,137 feet long in pile work and 713 feet of crib work, and projecting into the lake a distance beyond the shore line of 480 feet; the south pier comprised 993 feet of pile work and 698 feet of crib work, and projected beyond the shore line 705 feet.

Receipts by vessel in 1896 were 114,982 tons; shipments, 65,973 tons; in 1897 receipts, 124,238 tons; shipments, 59,928 tons.

*Saugatuck* is an Indian word meaning the mouth of a river. William G. Butler was the pioneer white man, settling on the site of the village in 1830. The village of Saugatuck was organized in 1868. For many years lumbering has been its chief industry, but fruit culture is succeeding it. Shipbuilding commenced here about 1837, when James McLaughlin built the *Crook*, a lumber vessel. Quite a number of vessels have since been constructed, among the earlier being the *Octavia*, and the *C. C. Trowbridge*, a flat-bottomed steamboat, intended for river navigation. Prior to 1846 flatboats ran from Kalamazoo to Saugatuck, but the completion of the Michigan Central road killed the business. River steamboats plied between Allegan and Saugatuck from 1858 to 1869, among them being the *Mayflower*, *Adelaide*, *Helen Mar* and the *Aunt Betsey*, the last three having been built at Allegan. The propeller *Ira Chaffee* was the first boat put on the Chicago line. She was followed by the steam barge *G. P. Heath*. The brig *Milwaukee*

was lost off Saugatuck harbor November 17, 1842, and the crew of nine perished.

Saugatuck harbor is at the mouth of Kalamazoo river, which originally had a depth of not over five feet. Its condition was first improved by a private company which obtained a depth of seven feet of water in the channel. Its further improvement was commenced by the United States Government in 1869, from which time to the year 1882 the piers were extended and interior channel revetments constructed until they had a total length of 1,907 feet on the north and 3,863 feet on the south side, all of pile work. Since 1882 appropriations have been too small to keep these structures in repair, and they have largely gone to decay. The navigable channel which has been opened up from time to time by dredging fills up again very soon after the dredge disappears.

The aggregate amount appropriated to June 30, 1898, was \$167,439.

The port of shipment out of this harbor is the town of Saugatuck, three miles above the entrance of the Black river into Lake Michigan, and the natural difficulties in the way of making and maintaining a reliable navigation by the present line of water travel are exceedingly great. The abandonment of the present improvement is probable.

The receipts by vessel in 1896 were 35,392 tons; shipments, 12,343 tons; 1897, receipts, 2,468 tons; shipments, 2,548 tons.

Saugatuck has a population of 900, and among its industries is a shipyard and boat-building plant.

*South Haven* is pleasantly located at the mouth of Black river, and is a village of 2,000 inhabitants. It is a well-known summer resort, and has a daily steamship line to Chicago. There is a safe and commodious harbor for shipping.

Improvements were commenced here by the citizens of South Haven, and they had obtained a channel into Lake Michigan of from six to seven feet in depth. The improvements were taken up by the government in 1867 on a plan that provided for increasing the channel to a width of 120 feet between piers extended far enough into

Lake Michigan to obtain and hold a depth of 12 feet. The original project was subsequently modified to make the entrance width between the piers 177 feet, and to extend the navigable channel up stream to the highway bridge, about one-half a mile. The total length of piers and revetments built up to 1888 aggregated 3,145 feet, since which time no further extensions have been made.

The total appropriations made up to June 30, 1898, was \$252,000. The north pier has a total length of 1,594 feet, and projects 650 feet beyond the shore line, and the south pier has a total length of 1,554 feet, and projects 470 beyond the shore line; the depth of water is about 12 feet.

Receipts by vessel during 1896 were 29,113 tons; shipments, 51,770 tons, of which 29,895 tons were fruit. Receipts in 1897 were 32,115 tons; shipments, 30,245 tons.

*St. Joseph.*—The St. Joseph river was discovered by Father Allouez about 1669. Father Marquette four years later visited and named the river the Miami. About 1775 a trader named Burnett established a post near the mouth of the St. Joseph river. In 1830 St. Joseph was first permanently settled. There was then on the brow of the hill overlooking the mouth of the river a cleared spot of ground of about one acre, formerly an Indian burying ground. Captain Hinkley in 1830 visited the mouth of the river in the sloop *Savage*. A gale was blowing, and the captain anchored. The sloop turned round and the heavy seas carried her over the bar stern first, as the captain cautiously paid out the cable. That was the first vessel arrival in the river.

The population is now 5,000, and the beautiful little city is one of the most popular summer resorts upon the eastern shore of Lake Michigan, especially among Chicago and Milwaukee residents, with which city St. Joseph is connected by daily lines. St. Joseph is the center of a famed fruit-growing Michigan belt, and exports a large product. In recent years about 1,000 vessels have entered annually. Freight receipts by lake in 1896 were 350,659 tons, and shipments, 274,981 tons; in 1897, receipts, 267,752, shipments, 128,017 tons. In addition

to the above, car ferries in 1897 carried 39,625 freight cars, weighing 832,125 tons.

St. Joseph river is now navigated from its mouth at St. Joseph, to Berrien Springs, a distance of about 25 miles by river, though not much more than half that by land. It is very crooked, obstructed by numerous shoals and rapids, over which the water flows in thin sheets, and with channel depth of from 2 feet to 2½ feet, the intervening pools being from 4 to 6 feet deep, and occasionally from 6 to 8 feet deep. The approved plan for the improvement of this river provides for the removal of sunken rocks and snags, and the maintenance of a depth of 3 feet at low water navigation over the obstructed shoals and bars.

The first appropriation was made in 1888. The entire amount appropriated has been \$5,500. The river has been increased in depth of channel from its original depth of about 2 feet to a depth of 3 feet at most of the worst places. The largest boat plying on this river during 1895 was the *May Graham*, 95 tons, with a loaded draft of 30 inches. She carried during the year 5,860 tons of freight, and many passengers.

The outlet of St. Joseph river was originally a shifting channel with a depth fluctuating between 3 and 7 feet. The object of the government improvement undertaken was to provide a channel 16 feet deep and 270 feet wide, from Lake Michigan to the upper limits of St. Joseph harbor, and 13 feet deep from there to Benton Harbor, about one mile above, *via* the Benton Harbor canal.

Work was begun on the improvement about 1836, and from July 4, 1836, up to June 30, 1898, there had been appropriated for carrying it on a total amount of \$493,113. The entire amount expended up to June 30, 1898, was \$490,614. The result of the work done is as follows: North pier and revetment, comprising a total length of 2,013 feet, projecting 1,300 feet beyond the shore line; south pier, comprising a total length of 819 feet, and projecting 550 feet beyond the shore line. The navigable depth at the entrance is but little more than 12 feet, but after getting inside the depth it is about 13 feet up to Benton harbor. Benton Harbor

canal is a long, narrow slip, wholly artificial, dredged from the upper end of St. Joseph harbor to Benton harbor, for local benefit. It is from 85 to 100 feet wide, over 4,000 feet long, and its navigability is maintained by repeated dredgings, once or twice a year, made necessary by want of re-vetment.

*Michigan City.*—In 1831 Isaac Elston, of Crawfordsville, Ind., purchased from the government the land on which Michigan City is now located, and in October, 1832, he laid out a town. The town site was uninviting, but it was believed a good harbor could be made here for the State of Indiana. Trail creek made its way over the sands to the lake, winding around the foot of Hoosier Slide, and a bar at its mouth was so shallow that one could cross afoot without difficulty. The first settlers arrived in 1833, Jacob Furman and B. F. Bryant building the first cabin. In 1834 there was only an Indian trail between Michigan City and La Porte, and for several years the best communication with the outside world was over the waters of Lake Michigan by means of the occasional arrival and departure of a boat. Only the smallest craft could reach the wharf, and cargoes were discharged by means of lighters. This continued until the government began to make improvements. The growth was rapid between 1834 and 1836, and in the latter year it was estimated that the city numbered over 3,000 inhabitants. The government began the work of improving the harbor in 1836. From that year to 1840 valuable improvements were made. Piers were built into the lake until a depth of 18 feet was reached, and the channel was dredged so that vessels of 200 tons could enter the harbor. But through the failure of appropriations the work was not completed and fell into ruinous decay. In 1865, the citizens determining to have a good harbor, organized the Michigan Harbor Company, to which Congress ceded the old harbor. After an expenditure of over \$100,000 the government again took up the work. The first cargo of wheat shipped from Michigan City was hauled through the woods in 1836 and loaded on the steamer *Post Boy*. It consisted of 1,500 bushels, and was

shipped to Buffalo. This was the commencement of a grain trade which grew rapidly. From 1837 to 1844 grain arrived at Michigan City from points as far south as the central part of Indiana. It was not uncommon for 300 or 400 teams to arrive in one day, and the vessel movement was correspondingly large. The railroads subsequently killed the trade. The present population is about 12,000.

The mouth of Trail creek originally had a depth of from three to four feet under favorable conditions. The improvements date from 1836 and supplied an inner harbor for local commerce, and partly completed an outer harbor designed to facilitate entrance to the inner harbor and to serve as a harbor of refuge.

The inner harbor has been made by deepening the entrance to Trail creek, and protecting the channel by pier extension to deep water in Lake Michigan, and prolonging the entrance channel up the creek. The work done from 1836 to 1869 gave a good entrance channel with a depth of 12 feet at the mean stage of water in Lake Michigan.

In 1882 the project of operations was modified to provide for extending the harbor up stream by dredging as far as the local authorities or property owners might build substantial revetments of approved design. In this way the total length of inner harbor has grown to be 9,159 feet. The channel depth at the entrance was 14 feet, and above the entrance from 11 to 12 feet. The total length of piers and revetments built by the United States Government was 3,572 feet, the width of the channel way between them being 225 feet at the entrance and narrowing down to 100 feet about 500 feet above. There are turning tables 350 feet wide at suitable intervals. The total amount appropriated for the inner harbor from July 4, 1836, to June 30, 1898, was \$431,763.

The outer harbor comprises an outer basin of some 40 acres, and is located to the east of the inner harbor, and an exterior detached breakwater to the westward, designed to give increased safety to vessels entering the harbor during stress of weather, and to provide sheltered outside anchorage



where vessels near this portion of Lake Michigan might find refuge against all northerly gales. The structures, including the basin, comprise a pile pier 1,225 feet long, extending in a northerly direction from the shore and closing the basin on the east; a crib breakwater 30 feet wide and 1,215 feet long, and a breakwater pier 30 feet wide and 500 feet long; in all 2,940 feet. These breakwaters were all completed from 1870 to 1885.

The exterior breakwater projected in 1882 is to be 2,000 feet long, comprised in two equal arms making an interior angle with each of 135 degrees. The total amount appropriated was \$841,875. The importance of this work as a harbor of refuge in this part of Lake Michigan is well recognized.

Receipts by vessel in 1896 were 121,036 tons; in 1897, 130,970 tons. Arrivals in 1896 were 437, registered tonnage, 106,543; 1897, 249, registered tonnage, 60,645. No record is kept of traffic between Michigan City and Chicago.

*Chicago.*—The fame of Chicago has spread beyond the boundaries of America. Its growth has been surpassingly swift. The memories of living men go back to the time when the prosperous city that now shelters 2,000,000 human souls was the home of less than 100 people. The development of Chicago is without a parallel in history.

To account for this phenomenon there is but one explanation. Chicago is the favored child of the Great Lakes. In the struggling days of first municipal existence, sagacious men predicted for both Milwaukee and Michigan City a more flattering future than they were willing to yield to Chicago. The neighbors of the future metropolis were more comely in appearance, more decently garbed, but the matchless location of Chicago as the point of greatest distance for lake traffic towards the growing West, gave it a power that outweighed all other considerations.

The city had thrived on lake commerce, and had started well upon its future career of greatness when the railroads lent their second aid. The fact deserves prominent mention that Chicago's first locomotive, the

"Pioneer," for use on the Galena & Chicago Union road, now part of the Chicago & Northwestern system, arrived at this city by boat. It was transported from Buffalo to Chicago in the brig Buffalo, and arrived in October, 1848. The railroads added to the city's growth by stretching out in various directions, and bringing to this port traffic for transportation by lake eastward or by rail eastward at rates which were made necessarily low by virtue of lake competition. The first and chief cause of the city's greatness is the Great Lakes.

In the days of the French traders and explorers Chicago was the seat of the powerful Miamis. The word Che-cau-gou was originally applied to the Illinois river, and the present Desplaines river was also known by that name. The origin of the name is in dispute. It was spelled in various ways, as Chikagu, Chikagou, and Chicaqu. One of the meanings is said to be "great" or "strong," from Ka-go something, and chi, from gitchi, great. Another explanation is that the term means skunk weed or onion, and was given to the Chicago river on account of the abundance of this bulbous plant throughout the country.

Marquette is usually mentioned by historians as the first white man to visit Chicago, crossing the portage to the Illinois river in 1674. A trading post in the eighteenth century existed for some time at the site, and in Wayne's Indian treaty of 1795 a piece of ground "six miles square at the mouth of the Chicago river, where a fort formerly stood," was ceded by the Indians to the United States. Fort Dearborn was erected there in 1803, the garrison arriving in the schooner Tracy from Detroit. The massacre of the garrison in 1812 is related elsewhere. There were then five houses in Chicago. The fort was rebuilt in 1816, and garrisoned for some years later. Fur traders had engaged in business here, and annually transported many furs by lake. Prior to 1830 there was no town at Chicago, only a few scattered buildings around Fort Dearborn. A village was platted in 1830, and the population then was less than 100. The next year Cook county was organized, and Chicago became the county

seat. Black Hawk's war, in 1832, brought General Scott and his troops to Chicago, and also the cholera.

The commerce of Chicago may be said to have commenced in 1832, although schooners had occasionally touched here previously. Two steamers arrived during the Black Hawk war, and trade grew rapidly during the remainder of that decade. From the year 1832, different steamboats made occasional trips to Chicago, the Daniel Webster, Monroe, Columbus, Anthony Wayne, Bunker Hill, and others. In the year 1833, three brothers, Leonard C., Peter D. and Hiram Hugunin, sailed a yacht named the Westward Ho from Oswego to Chicago. After a voyage of nearly three months, they in August arrived outside the sandbar, went ashore, hired eight yoke of oxen, and hauled their vessel over the barricade into the river. The Westward Ho may, therefore, be considered the first lake boat belonging to private parties to fairly enter the river. The next year, when immigration to Chicago was active, the vessel interests received added impetus. Early in April a schooner arrived from St. Joseph, Mich., and two vessels cleared for that port.

The most noted of early steamers was the old Michigan, built by Oliver Newberry, of Detroit, who for many years was largely engaged in the commerce of the lakes. This was the first steamboat which entered the river below Dearborn street, arriving in June, 1834. The appearance of the first schooner as it sailed up the river to Wolfe Point was greeted with even more enthusiasm than hailed this craft. She was the Illinois, a vessel of nearly 100 tons, launched during the spring at Sacket's Harbor, N. Y., and commanded by Captain Pickering. Her topmast was covered with streamers, and her canvas was spread to invite the gentle breeze, the banks of the river were crowded with a delighted crowd, and as she reached the wharf of Newberry & Dole, where she stopped, she was greeted with loud and repeated cheers. On her passage up the river more than 200 visitors were on board. Two days after the arrival of the Illinois, came the Philip. In the fall

of 1834 the Illinois made her return trip from Cleveland, bringing provisions to the settlers at Chicago and Milwaukee. The old steamer Michigan made one or more pleasure trips around Lake Michigan, and she with her veteran commander, Captain Blake, were great favorites with the traveling public. In 1834 three steamboats landed at Chicago.

The heart of the growing town was at last connected with the navigable heart of the great Northwest. Soon afterward a large class of steamers commenced making regular trips from Buffalo, touching most of the intermediate ports. Among the number was the James Madison, owned by Charles M. Reed, of Erie, and built with particular reference to the upper lake trade. Her capacity for freight and passengers was the largest upon the lake at that time. Still later, in 1837, came the steamer Illinois, owned and built by Oliver Newberry, and designed for the Chicago trade.

The work of improving Chicago harbor was commenced by the United States Government in 1833. Previous to this time Chicago river made a sharp bend southward, near the present depot of the Illinois Central railroad, and had its outlet into the lake fully half a mile from the bend, leaving between the river and the lake a long sandbar showing above water, formed by the action of the northeasterly gales. The work of improvement was inaugurated by giving the river a straight outlet by cutting through this bar, and the construction of a pier on the north bank. The direction of this pier was east by south, and its length about 1,000 feet, beginning at the shore line as formed at that time. A pier was also constructed on the south side of the river, running parallel to the pier above mentioned, through which subsequently cuts were made by the Illinois Central railroad for the purpose of forming ship basins in connection with other improvements. In 1837 the north pier was extended 400 feet, and its direction changed to about east by north. This change, however, proved unfavorable, as a sand bar soon formed in the channel south of the east end of the pier, which necessitated a return to the direction given to the first part of the

pier, and in the construction the change was made gradually by building the pier in the form of a crescent, to which the old pier would be a tangent, and ending in the direction desired. This work was done in 1838-40, and in 1852 a pier head was built at the outer extremity, to be used as a lighthouse. The lighthouse, however, was constructed on piles at a point about fifty feet further north. The depth of water in the harbor at that time was about eight feet, and as the vessels were of small dimensions, this was sufficient for the largest class.

Chicago harbor is at the mouth of Chicago river, and consists of an inner and an outer harbor, the inner harbor being within the mouth of the river, and the outer harbor being a portion of Lake Michigan to the south of the entrance to Chicago river. The project for the improvement of this harbor was adopted in 1870, and since modified.

The original project contemplated: The formation of an outer harbor or basin by inclosing a portion of Lake Michigan just south of and adjoining the Chicago river, and the construction of an exterior breakwater north of the entrance to Chicago river, and about one mile distant.

The outer basin originally covered 455 acres of the area of Lake Michigan, of which 270 acres lie seaward of the dock line established by the Secretary of War September 22, 1890, and 185 acres west of this dock line. The dock line is about 1,300 feet east of the right of way of the Illinois Central railroad, and 2,000 feet distant from, and parallel to, the easterly breakwater of the basin.

Under authority granted by the Secretary of War July 24, 1895, a bulkhead has been constructed along the dock line, and the area shoreward of the dock line is now being filled in for a public park.

At the northern end of the basin are several slips and docks now in possession of the Illinois Central Railroad Company, but title is in litigation. In view of the restricted capacity of Chicago river these outer slips and docks become more important to the commerce of the city, and the wisdom of dredging the outer basin to 20 feet depth

becomes apparent. The northern part is now in use for commercial purposes, and the entire basin would be useful as a safe roadstead for large vessels if dredged.

The breakwater is 5,413 feet in length, 30 feet wide, and constructed in water varying from 18 to 32 feet in depth. All of it, except 1,200 linear feet, which is on a foundation of riprap stone, has been built upon the natural sand and clay bottom. The work was begun in 1880 and completed in 1890.

Appropriations made by Congress for the improvement of the Chicago harbor from 1870 to 1896, inclusive, were \$1,860,000, as follows:

1870, \$100,000; 1871, \$100,000; 1872, \$90,000; 1873, \$90,000; 1874, \$75,000; 1875, \$78,000; 1876, \$5,000; 1878, \$75,000; 1879, \$75,000; 1880, \$145,000; 1881, \$150,000; 1882, \$200,000; 1884, \$100,000; 1886, \$75,000; 1888, \$200,000; 1890, \$100,000; 1892, \$72,000; 1894, \$80,000; 1896, \$50,000; total appropriated \$1,860,000.

The extended project of 1896 contemplated the dredging of Chicago river from its mouth to the stock yards on the south branch, and to Belmont avenue on the north branch as far as existing docks would permit, to admit the passage of vessels drawing 16 feet of water. Appropriations to June 30, 1898, amounted to \$563,000 and expenditures to \$112,127.

The dredging to 17 feet from the mouth of the river to the stock yards, on the south branch, was completed in July, 1898.

On the north branch dredging has been carried from the forks of the river to Fullerton avenue.

Prior to the passage of the Sundry Civil Act of July 1, 1898, no money was available to pay expenses of acquiring title to lands needed for widening the river at certain points under the adopted project; but much preliminary work has been done, viz.: Maps, plats and descriptions of all lots of land required have been made, areas computed, and forms of proposals for purchase and sale made out and printed. The general project, showing approximately the lots required and the estimated cost of the



same, has been approved by the Secretary of War.

The following extract is from the report of Major W. L. Marshall, of the Corps of Engineers, U. S. A., on the use and commerce of the Chicago river: The capacity of Chicago river is insufficient to accommodate the largest sized modern vessels, which require a channel 225 feet in width, 20 feet deep, and nonobstructive bridges with spans exceeding 60 feet in width. The largest vessels that can now use Chicago river are about 325 feet in length, 45 feet beam, and 16 feet load draft.

To accommodate vessels 450 to 500 feet long, 19 feet or more draft, and 50 feet beam will require changes in many of the bridges, widening the river at many points, the removal or lowering of three tunnels, and the practical rebuilding of one-half of the docks and wharves along Chicago river. Under existing laws the larger part of this work must be performed by and at the expense of the city of Chicago or the owners of the obstructive bridges, docks and tunnels.

The commerce of the river amounts to from 10,000,000 to 11,000,000 tons per annum. Of this probably 70 per cent. originates in the form of manufactured articles in the Chicago district, or lodges permanently within the city limits and is consumed by its population or put in other forms by manufacture. The remaining third or fourth is freight simply handled at Chicago, or in transit at Chicago, such as grain, salt, coal, lumber, especially the two first named.

The lumber and coal and salt in transit at Chicago river is growing less. The western plains now in great measure get their lumber from Lake Superior ports or from the Upper Mississippi Valley. The coal trade as shown by the Sault Ste. Marie records is largely going to Duluth and Superior, and the grain, coal, and salt now handled at Chicago is appreciably going to South Chicago.

The Chicago river has been improved, docked, dredged, and bridged by the city of Chicago and by the riparian owners, as the city grew to keep pace with their requirements for commerce primarily and for sew-

age disposed for convenience incidentally, without aid from the Federal Government, until it has grown to be a great artificial waterway, without public landings or docks, defiled and putrescent with sewage and filth, but one of the most important waterways (measured by its commerce) on the globe. The adoption by Congress of the project for a comparatively deep waterway, 20 to 21 feet, to replace the 15-foot channel between Duluth, Chicago, and Buffalo, has been followed by such a revolution in the lake marine as to make the Chicago river, as limited by docks, by bridges, and by tunnels, utterly inadequate in capacity to accommodate the great vessels of to-day, and at once make necessary either (1) a complete remodeling of the river, (2) a new harbor at Chicago for largest vessels, or (3) a loss of commerce as far as may relate to heavy commodities "in transit" at Chicago, which require the lowest rates of transportation and, therefore, the most capacious vessels and commodious channels.

The fact that Chicago river can accommodate vessels of 16 feet draft only, and for but a small part of its length can admit vessels not exceeding 325 feet length and 42 feet beam, when large modern vessels now being rapidly added to the fleets of the Great Lakes are 432 feet in length, 48 feet beam, and designed for a draft of water of 19 to 20 feet, is disquieting and hampering to all interests at Chicago dependent upon commerce by water, and the demand for better accommodations in Chicago river is growing in intensity.

The extent to which Chicago river may be improved without undue cost in view of its commerce, and without undue sacrifices on the part of individuals, corporations, or the community, is a question that should appeal to the people of Chicago, and they should take the initiative and practically decide the matter.

*Calumet River* courses its way from Indiana through a portion of Illinois into the southern end of Lake Michigan. The original depth of water in this river was from 6 to 10 feet, and the project for its improvement, adopted by Congress in 1883, contemplated a channel 200 feet wide at bot-

tom from the mouth of the river to a point one and one-half miles east of Hammond, Ind., to a depth of 16 feet below the harbor datum at ordinary low water in Lake Michigan, in order to increase the facilities for handling the commerce of this region and in this way to give relief to the overcrowded port of Chicago. This object was afterward modified so as to provide, so far as it was practicable, for a channel for 2 miles southward from the mouth of the river to be dredged to a depth of 20 feet.

June 30, 1898, there was a channel of 20 feet from the harbor to One Hundred and Sixth street, a distance of 2 miles.

It is proposed to maintain the 20-foot channel, re-dredge the 16-foot channel from One Hundred and Sixth street to One Hundred and Eighteenth street, and to extend the channel southward under the original project.

The appropriations for this work from July 5, 1884, to June 30, 1898, inclusive of both dates, amounted to \$350,000.

*Calumet* harbor, at the mouth of Calumet river, is known throughout the region of the Great Lakes as the South Chicago harbor.

The object of the improvement here is to provide a safe and practicable entrance to Calumet river and the port of South Chicago, by means of parallel piers 300 feet apart extending from the shore to deep water in the lake. The work was commenced in 1870, and by June 30, 1896, there had been constructed 2,020 feet of the south pier, and 3,640 feet of the north pier, which completed the project as far as authorized, giving a channel 16 feet deep, instead of one seven feet deep, as originally.

A supplementary plan contemplated an outer breakwater to shelter the entrance to the Calumet river and to the Illinois Steel Company's harbor, and to form a sheltered roadstead to be dredged to a depth of 20 feet. The appropriations from 1870 to 1896 amounted to \$537,400. At present there is a good channel 20 feet deep at present stage of water between the piers, but storms have somewhat filled the channel seaward of the piers with drifting sand. Vessels, however, of the largest size and

draft that can use the so-called 20-foot channel between the upper Great Lakes can freely enter and leave the harbor.

The tonnage of this harbor has increased very materially since 1894, and is now about one-third that of Chicago, the main articles of freight being iron, grain, salt and coal. Iron is nearly two-thirds of the total tonnage, and the loads of iron vessels can now carry is limited only by their capacity and by the depth of the Calumet river.

The average steam vessel trading at South Chicago is larger than at any port on the globe, the reason for which is that the trade is almost entirely in the bulky, heavy freights; the more valuable freights, merchandise, package freight, etc., as well as pleasure, passenger and excursion traffic go to Chicago river and harbor, and the smallest vessels are in sufficient number to reduce the average tonnage.

This harbor is now the finest on Lake Michigan, capable of receiving and accommodating the largest vessels yet afloat or projected on the Great Lakes, as long as the bar at its mouth may be kept dredged. The construction of an exterior breakwater, now so urgently needed, will leave but little to be desired at the present stage of development of wharfage at South Chicago.

Chicago has many establishments closely related to marine interests, prominent among which are the works of the Chicago Ship-building Company, located on the Calumet river at South Chicago. The lake commerce of the city is growing steadily. In 1897 the total shipments of grain by lake aggregated 168,131,000 bushels. Receipts of lumber aggregated 906,241,000 feet, and iron ore receipts were 1,820,000 tons.

There are only two ports in the world which outrank Chicago in the volume of tonnage handled, and, with only one exception, the margin of difference by which they maintain a lead is inconsiderable. These ports are London and New York. In this connection the following statistics from the United States Treasury Department, showing the details of tonnage for 1897, will furnish a forcible illustration of the high rank held by Chicago: New York, 15,333,398; London, 14,433,580; Chicago, 12,965,832;

Hamburg, 12,447,706; Liverpool, 10,489,578; Cardiff, 10,478,394; Antwerp, 10,083,228.

The arrival of vessels at Chicago in recent years have been as follows:

YEAR	VESSELS	TONNAGE
1862.....	7,417	1,931,692
1865.....	10,112	2,106,859
1869.....	13,750	3,123,400
1870.....	12,739	3,049,265
1871.....	12,320	3,096,101
1872.....	12,824	3,059,752
1873.....	11,858	3,225,911
1874.....	10,827	3,195,633
1875.....	10,488	3,122,004
1876.....	9,621	3,089,072
1877.....	10,233	3,274,332
1878.....	10,490	3,608,534
1879.....	11,859	3,887,095
1880.....	13,218	4,616,969
1881.....	13,048	4,533,558
1882.....	13,351	4,849,950
1883.....	11,967	3,812,464
1884.....	11,354	3,756,973
1885.....	10,744	3,653,936
1886.....	11,157	3,926,318
1887.....	11,950	4,328,292
1888.....	10,989	4,393,768
1889.....	10,804	5,102,790
1890.....	10,507	5,138,253
1891.....	10,224	5,524,852
1892.....	10,556	5,966,626
1893.....	8,754	5,456,637
1894.....	8,259	5,181,260
1895.....	9,212	6,329,702
1896.....	8,663	6,481,152
1897.....	9,456	7,209,442
1898.....	7,624	5,285,559

In 1897 the lake receipts included 1,820,212 tons of iron ore and 1,301,288 tons of coal, besides a large amount of miscellaneous freight. The shipments are mainly grain, the volume of which for many years past is presented in the chapter on grain. The lake traffic of the port is steadily increasing, the decrease in the number of arrivals being much more than overcome by the larger tonnage of the vessels.

*Waukegan* is a manufacturing city of 7,000 inhabitants, situated on the west shore of lake Michigan, about 35 miles north of Chicago. Among its industries is a large boat factory.

Waukegan harbor is situated near the mouth of a little stream which was and is of no importance for harbor purposes. The shore line is practically continuous. The

only natural feature favorable to harbor construction is in the existence of low ground between the shore line and bluff, composed of sand or other material easily removed, by which means an artificial basin of any desired extent could be dredged.

The project adopted here in 1852 was to provide a harbor for vessels engaged in commerce with the city of Waukegan, by the construction of a breakwater parallel with the shore in 20 feet of water. One crib was placed in position, but it was carried away by a storm, and the work was then abandoned. A new project was adopted in 1880, providing for the construction of an exterior basin large enough for local trade by inclosing a portion of Lake Michigan, with pile piers, the entrance channel between the piers and the enclosed area to be dredged to a depth of 13 feet.

In 1882 the project was modified to locate the south pier 850 feet south of the shore end of the north pier, and extending the north pier easterly from its outer end as it then stood. This diminished the area of the harbor considerably, and for this reason additional room was to be obtained by dredging an interior basin in the low ground between the shore and bluff, connected by a narrow channel with the exterior basin. The piers are now completed.

The first appropriation was made in 1852, and the total appropriations have reached \$230,000.

Imports by water in 1896 were only 1,685 tons, less than 1 per cent. of imports by rail. Vessel receipts in 1897 were also quite small.

The subject of new docks at Waukegan has been agitated for two years, with bright prospects that this port will soon become important in Lake Michigan traffic.

*Kenosha*, known in its earlier years as Southport, was first settled in 1835 by John Bullen, William Bullen and E. C. Hart, who had reached Chicago in a schooner from Grand Haven, Mich., and thence journeyed by land up the shores of Lake Michigan. The year following the two Bullens purchased at Oswego the schooner *Martin Van Buren*, of about 100 tons burden, and



dispatched her with seeds, provisions, implements, etc., to Southport, and brought home from Chicago a drove of cattle which they disposed of at great profit. The first cargo landed at Southport consisted of lumber from Sheboygan. It was thrown into the lake and floated ashore in rafts. Schooners ventured within a mile of the shore, and small craft went nearer shore. Captain Robinson, of the schooner Hiram, brought lumber in 1835, and the schooner Fly brought potatoes from Michigan the same year. In 1836 the steamer Detroit landed passengers and provisions. In 1837 the Daniel Webster touched here and arrivals then became more numerous. In October, 1837, the steamboat Detroit was wrecked off Kenosha. An outside pier was built from 1840 to 1842 by B. P. Cahoon. It was said to be the first of its kind on the lakes, and was greatly ridiculed at first. It is related that the captain of the steamboat Wisconsin, wishing to demonstrate the fragile character of the pier, made fast his best lines and started the boat. The engines caused no perceptible motion to the pier, but the lines parted. Considerable expenditures were made by the village for harbor improvements.

*Kenosha* harbor is at the mouth of Pike creek, which discharges into what is called "The Basin," the southerly section of an extensive bayou trending northward, and separated from Lake Michigan by a point of sand. In the basin the original depth of water was about six feet, and the original depth at the mouth of Pike creek varied from absolute closure to four feet.

The original plan of improvement, adopted in 1852, was directed to the securing of a channel 13 feet deep by constructing parallel piers. This plan was modified in 1866 to secure 16 feet of water. A further modification, in 1889, provided for the extension of the north pier 300 feet and the south pier 600 feet.

The first appropriation was made in 1844. The aggregate amount appropriated has been \$299,307.

The condition of the improvements in 1898 was as follows: North pier, 1,750 feet long, projecting 800 feet beyond the shore

line into the lake; south pier, 1,366 feet long projecting 1,170 feet beyond the shore line. The least distance between the piers is 150 feet.

The total number of vessels arriving at this harbor during the year 1896 was 221, with a tonnage of 38,267; in 1897, 278 vessels arrived. The exports by water in 1896 were 21,151 tons, valued at \$125,000, and of imports, 50,046 tons, valued at \$800,000. In 1897, 13,766 tons of freight, valued at \$400,000, were shipped, and 70,206 tons, valued at \$1,500,000, received.

*Racine.*—The first permanent settlement at Racine was made in 1834, one year after the Indians by treaty ceded to the United States all the land now lying in southeastern Wisconsin. The first settler was Gilbert Knapp, a sea captain, who had for a number of years been in the government service on the Great Lakes. The settlement of the place was made by land, and the village grew slowly. The name Racine is of French derivation. It signifies root, and was applied to the Root river by the early missionaries. In 1835 the first vessel arrived with provisions from Chicago. It was a small craft, and the settlers pulled it up stern foremost on the shore, and safely landed the cargo. During the early years of settlement about three steamers touched here from Buffalo or Chicago. There was no harbor, and the shore was given a wide berth. Passengers and freight were landed by means of a scow and a large yawl-boat, called the Peacock, owned by the people of Racine. Lumber was frequently thrown overboard and allowed to drift ashore, where it was gathered up. In 1842 there were 800 inhabitants. A great event was the arrival of the propeller Racine, June 8, 1844, when a stand of colors was presented to the new vessel. Thomas Wright delivered an address, and Captain Hawkins responded in a felicitous manner. Piers were commenced here by the residents in 1842, but a large limestone rock in the middle of the stream at the entrance to the harbor was several years an annoying obstruction. The Root river is navigable for about one and one-half miles. In the early years of its history Racine was an important point for re-

ceiving emigrants, and for shipping grain and flour. Many vessels were built here, the first of which was the schooner Diamond. The first steamboat to enter the harbor was the Chesapeake, July 14, 1844. The Goodrich Transportation Company established an agency at Racine in 1862.

Racine harbor is located at the mouth of Root river, the natural depth of which was never more than 7 feet, and usually much less, a northeasterly storm closing the mouth to such an extent that scows drawing 18 inches of water could not get in or out.

The original project of improvement, adopted in 1842 or 1843, contemplated a channel 13 feet deep from Lake Michigan into Root river, between parallel piers 160 feet apart, the distance from the shore to 13 feet of water in the lake being 800 feet. In 1866 provision was made for a channel 16 feet deep, and, in 1889, for a channel of 17 feet.

The first appropriation was made in 1844. The aggregate amount appropriated has been \$336,785.

The works at this harbor June 30, 1898, had reached the completion of the 1889 project. The north pier is 1,760 feet long, projecting into the lake beyond the shore line 1,150 feet; south pier, 1,470 feet long, projecting into the lake beyond the shore line 1,350 feet. The width between the piers at the entrance is 265 feet.

The total number of vessels arriving at this harbor during the year 1896 was 1,470, with a tonnage of 1,772,795; arrivals in 1897 were 1,707, tonnage 1,115,637.

Exports by lake in 1896 were 56,448 tons, valued at \$4,280,460; imports, 308,400 tons, valued at \$8,410,208. Exports in 1897 by all ways of transportation were 331,839 tons; imports, 568,701 tons.

*Milwaukee* is the second port in importance on Lake Michigan, and one of the most important upon the Great Lakes. The site of the city had been occupied by an Indian village, and Father Membrau, the missionary, passed through or near Milwaukee in 1679 on his way from Mackinaw to "Chicago." Father Pierre Marquette had also visited the place in 1674. During the French and Indian wars, or as early as

1757, there were traders at Milwaukee. The English trader stationed here in 1760 is said to have been so objectionable to the Indians, on account of the high prices he demanded, that they journeyed to Mackinaw and asked that another trader be sent to them. After the war of 1812 James Kinzie was sent to Milwaukee to represent the American Fur Company. Prior to the year 1800 a dozen or more cabins had been built by the traders, and there are evidences that in the early French days quite a village flourished here. Jean Baptiste Mirandeau, a Frenchman, settled at Milwaukee about 1790, married a Chippewa woman, and died here in 1820, leaving a large family. Solomon Jeneau became a permanent settler in 1818. The first Anglo-Saxon settlers arrived November 18, 1833. They were Albert Fowler, Quartus G. Carley, Andrew J. Lansing and Robert J. Currier, the Indian title to the land having been extinguished in September previous. Settlers came in rapidly, and the land craze of 1836 sent prices of lots to \$500 or \$1,000. After the panic of 1837 many of these lots were sold for a barrel of flour or a suit of clothes.

The schooner Chicago Packet, of 30 tons, anchored off Milwaukee in 1823, and received a cargo of furs. The schooner Virginia, of 130 tons, visited the river the same year, and the Aurora arrived from Green Bay. There was a demand for a harbor as early as 1835, and in 1836 a survey was made by Lieutenants Center and Rose. During that year 314 vessels are said to have arrived at Milwaukee.

The schooner Solomon Juneau, of 90 tons burden, was built at Milwaukee in the winter of 1836 by Capt. George Barber. She was lost on Lake Ontario. The sloop Wenona, of 30 tons, had been built earlier, but was used only as a lighter. The steamer James Madison arrived May 26, 1837, "with 1,000 passengers and 4,000 barrels of freight." In 1837 the steam scow Badger, of 50 tons, was built. She was wrecked the same year, and the little steamer Menomonee was built in 1838 to take her place as a harbor steamboat.

A lighthouse was built at the foot of Wisconsin street in 1838. According to J.

S. Buck, writing in 1876: "There have been four changes in the mouth of the river in the last 50 years. In 1822 it debouched near the present elevated ore tracks, opposite Wolf & Davidson's ship yard; in 1836 it was at the old harbor; in 1837 it cut for itself a new channel near where the present harbor is, where it discharged all the summer, when it returned to its old mouth;" and then the present artificial mouth. A pre-historic outlet was evidently at Deer creek. At the date of settlement a narrow stream flowed from near the quarter-line of Section 33, southward for more than half a mile, reunited with the main stream, which ran to the westward and curved to the east again, forming an island of 40 acres or more. For more than half a mile a narrow strip of land only a few rods in width, separated the river from the lake. The East-siders demanded that a cut be made at the head of the island, which is practically the site of the present harbor, by which means two-thirds of a mile might be saved in the run of vessels up the river. The curved stream, filled with grass, was almost impassable from the head of the island to the outlet. Congress was slow to make the appropriations for improvements, and in 1842 an indignation meeting was held by citizens, and committees were appointed to secure local subscriptions for the harbor improvements. The imports at Milwaukee had grown from \$588,950 in 1835 to \$1,805,277 in 1841. Exports in 1835 were valued at \$26,145, and in 1841 \$286,777. The first propeller to visit Milwaukee was the *Vandalia*, in 1842. The first propeller built at Milwaukee was the *Allegheny*, in 1856. In 1843 the first pier was built by Tafts & Kendall. It was the second pier on the lake, the first having been built at Southport (Kenosha) in 1840. Finally, in 1843, an appropriation of \$30,000 was made for harbor construction "at or near" Milwaukee. The harbor was made at the mouth of the river. An appropriation of \$15,000 was made in 1852 to construct the "straight cut," an improvement which the city greatly desired.

Prior to 1860 the number of vessels of all classes built in Milwaukee was about

70, the largest of which were the *Hans Crocker*, measuring 496 tons, and the propeller *Allegheny*, of 593 tons. The Wolf & Davidson shipyard was started in 1858 by William H. Wolf and Theodore Lawrence. The Milwaukee Shipyard Company was organized in 1874 with a working capital of \$51,000. The Milwaukee Tugboat line was incorporated in 1872 with a capital of \$80,000.

The first cargo of grain was shipped from Milwaukee in 1841. The exports of wheat in 1845 were 95,510 bushels; in 1846, 213,448 bushels; in 1849, 1,148,807 bushels. Statistics of Milwaukee's grain traffic are given in another chapter.

Milwaukee harbor is at the mouth of Milwaukee river, the natural entrance of which had a channel not over  $4\frac{1}{2}$  feet deep. This river for the latter 3,000 feet of its course flowed parallel to and a short distance from the lake shore, separated from it only by low land, mostly sand drift. Inside the mouth of the river its natural depth was about 11 feet.

The first improvements made looking to the formation of a harbor here were directed to the opening of the natural mouth of the river, and extended over the period from 1836 to 1846. The principal work was done in 1845 and 1846, when the original mouth was dredged, and protection piers built on the sides of the channel to the line of 11 feet of water.

The first really valuable project for the improvement of the harbor was adopted in 1852, and was to provide for a channel 260 feet wide and 13 feet deep, by dredging across the point which overlapped the mouth of the Milwaukee river at the distance of 3,000 feet to the northward of its original outlet, and by the construction of parallel piers of crib work, each 1,120 feet long, for the protection of the sides of the channel thus formed. In 1868 this project was modified to secure a channel 19 feet deep by extending the piers 600 feet and dredging.

The first appropriation for the improvement of the original mouth of the river, made July 4, 1836, was of \$400. Two other appropriations were made for this improvement, one on March 3, 1843, of \$30,-



ooo, and the other on June 11, 1844, and of \$20,000. The first appropriation for the straight-cut improvement was made in 1852, and to the present the appropriations have aggregated \$353,425, the total amount appropriated from July 4, 1836, being \$403,825.

Appropriations: 1836, \$400; 1843, \$30,000; 1844, \$20,000; 1852, \$15,000; 1853, \$164; 1866, \$48,283; 1869, \$35,640; 1870, \$40,000; 1871, \$38,000; 1873, \$10,000; 1874, \$10,000; 1875, \$25,000; 1876, \$26,000; 1878, \$15,000; 1879, \$7,500; 1880, \$10,000; 1881, \$8,000; 1882, \$10,000; 1886, \$4,736; 1888, \$10,000; 1890, \$6,100; 1890, \$6,000; 1892, \$14,000; 1894, \$7,000; 1896, \$7,000. Total, \$353,425.

In addition to the amount spent by the United States Government, the city of Milwaukee spent, on the project of 1868, the sum of \$321,355.

The harbor piers were completed during the past year to the length projected in 1872. The depth of water is 18.5 feet.

The number of arrivals of steam and sail craft at Milwaukee in 1853 was 1,483; passengers landed at that port during the season, 25,222; tons of merchandise landed, 33,700; barrels of salt, 48,709; lumber, 15,000,000 feet; lath, 5,000,000; shingles, 9,100,000; railroad iron from England *via* Canada, 2,228 tons. Exports: Wheat, 1,048,064 bushels; barley, 325,866 bushels; rye, 80,375 bushels; flour, 225,000 barrels; brick, 2,367,000; pork, 6,519 barrels; beef, 2,621 barrels; departures of steam and sail vessels during the season, 1,458.

Arrivals of vessels in 1895 were 5,261, registered tonnage 3,550,217; 1897, 5,983, tonnage, 4,657,539.

Freight received by lake in 1895 was 1,940,218 tons; 1896, 2,122,878 tons; 1897, 2,656,889 tons. Of the receipts in 1896, coal comprised 1,487,483 tons, and in 1897 1,493,528 tons. Wood, tanbark, lumber, iron and iron ore are other large imports. Freight shipped in 1895 aggregated 732,516 tons; in 1896 1,096,350 tons; in 1897 1,093,457 tons. The exports of grain and mill products exceed 80 per cent. of the whole.

The Harbor of Refuge at Milwaukee is

in Milwaukee bay, which, while protected from storms from all directions except from the northeast to the southeast, was exposed to gales from these directions. And while the anchorage ground was good, vessels seeking shelter in the bay during storms were in danger of dragging their anchors or of failing to effect an anchorage at the proper place during a gale from an easterly direction.

The project for the improvement of this harbor of refuge was adopted in 1881, and contemplated the formation of an artificial harbor by inclosing that portion of Lake Michigan which formed Milwaukee bay within a breakwater of crib work on a stone foundation. This harbor thus improved furnishes a safe mooring ground of 417 acres outside the 19-foot curve in the lake, and of about double that area outside the 13-foot curve.

The first appropriation for this improvement was made in 1881, and the total appropriations have been \$800,000. Work was begun in 1881, and up to June 30, 1898, there had been constructed a crib breakwater on stone foundation 4,650 feet long, and from 20 to 30 feet wide.

The Harbor of *South Milwaukee* is at the mouth of Oak creek. The depth of water at the mouth of this creek in its natural condition varied from 3 feet to nothing, and a depth of 21 feet was to be found in Lake Michigan at a distance of 1,350 feet.

In 1896 it was determined to secure a navigable channel from Lake Michigan into Oak creek, 200 feet wide and 18 deep, the least distance between the piers to be 250 feet.

At the present time there are two piers at this harbor, which were built by private enterprise, as follows: North pier, 600 feet long, 16 feet wide, projecting 450 feet into the lake beyond the shore line, built in 1891-1892; south pier, 300 feet long, 16 feet wide, projecting 275 feet into the lake beyond the shore line, built in 1891-1892.

For this improvement the first appropriation made by the United States Government was \$5,000, made June 3, 1896. Freight shipped in 1897 amounted to 16,153 tons.

chiefly iron; freight received, 110,837 tons, largely coal, railroad ties, iron and steel and general merchandise.

*Port Washington.*—Nooster Harrison, the first permanent settler of Washington county, Wis., and of Port Washington, had been a trader up and down the shores of Lake Michigan, and in 1835 entered the land covering the present site of Port Washington. Here he laid out a town and called it Wisconsin City. The financial crash of 1837 wiped it out, and not until 1842 was any attempt made to revive the deserted village. Port Washington lies in a beautiful little bay, and in the early steamboat days vessels touched here regularly. The passenger steamer Niagara burned four miles off Port Washington pier in August, 1856, with great loss of life, and the propeller Toledo was lost with many lives near the pier a little later. The present population is 3,500.

*Port Washington* harbor is at the mouth of the Sauk river, the natural channel of which at the mouth was narrow and at the shoalest point had a depth of only one foot. The volume of water discharged is inconsiderable, and the stream was entirely valueless for the formation of a harbor; but, on account of the large amount of alluvium brought down in freshets, it would be a positive detriment were it allowed to empty in the harbor. It is, therefore, shut out of the harbor by a pile revetment and an artificial bank.

The original project for the improvement of a harbor here was adopted in 1869, and provided for two parallel piers 150 feet apart, extending from the shore line to 11 feet of water in the lake, and excavating a basin 600 feet long and 200 feet wide inside the shore line. A second basin to the northward and nearly at right angles with the first, and extending the piers to the 15-foot curve in the lake has been excavated. The two interior basins have a combined area of about  $5\frac{3}{4}$  acres and a depth of 13 feet.

The first appropriation for this improvement, made in 1870, was of \$15,000. The total appropriations to 1897 were \$194,536.

The north pier is 920 feet long, projecting 830 feet beyond the shore line; south

pier 1,326 feet long and projecting 725 feet beyond the shore line. The object of the improvement is practically accomplished, the depth of water in the basins being, for the most part, 13 feet.

The total number of vessels arriving at and departing from this harbor during the season of 1895 was 994, with a total tonnage of 161,950 tons; 1896, 1,847, tonnage, 125,050; 1897, 1,088, tonnage, 87,300. Lake imports in 1896 were 33,232 tons; exports, 38,196 tons. The imports of freight in 1897 were 54,185 tons; exports, 27,282 tons.

*Sheboygan.*—The early history of Sheboygan was much like that of other ports on the Wisconsin shores of Lake Michigan. The land was open for settlement in 1835. The land craze of 1836 sent values enormously high. The panic of 1837 wiped out all semblance of value. There had been squatter occupation in the vicinity as early as 1818. Charles D. Cole came in 1836. There were about 20 buildings in the following year, when the financial crash came. All business stopped and the population was reduced to one family. A few years later came recuperation. For a number of years connection with the outside world was maintained only by means of boats on the lake, which occasionally touched at Sheboygan. About 1840 a lighthouse was built on Sheboygan Point, and in 1860 the present lighthouse was erected. A lighthouse was placed on the north pier of the harbor in 1873. The first pier was built in 1841 by William Farnsworth, and four years later it was extended out 800 feet. In 1847-48 Kirkland's pier south of the river was built, and in 1852 a fierce gale swept away both these improvements. They were rebuilt, and lasted till the harbor made them unnecessary. In a memorial presented to Congress in 1849 it was recited that every vessel owned at that port had been stranded or wrecked, and a list was given of nine vessels wrecked in the bay. The catching of white fish has been an important industry at Sheboygan since an early day. The population of Sheboygan is 25,500.

Sheboygan harbor is situated at the

mouth of Sheboygan river, which previous to the commencement of improvements never had a depth of more than seven feet, the width being about 150 feet during freshets, and running down to about 40 feet with a depth of three feet. The first improvement made was by commissioners appointed by the city and county of Sheboygan, and consisted of two parallel piers, the north one being 900 feet long, and the south pier being 780 feet long.

The first appropriation for this improvement was made in 1852. The entire appropriation up to 1898 aggregated \$394,448.

The result of the work done here is as follows; North pier, 2,370 feet long, projecting into the lake beyond the shore line 1,600 feet; south pier 2,487 feet long, projecting in the lake 2,100 feet. The least distance between the piers is 170 feet, and the distance between them at the entrance to the harbor is 275 feet; depth 19 feet.

The arrivals at and departure of vessels from this harbor in 1895 were 2,012, with a tonnage of 1,047,187; 1896, 2,101, tonnage, 1,228,916; 1897, 2,183, tonnage, 1,159,112. The imports by water during 1895 were 275,105 tons, and of exports, 7,725 tons; 1896, imports, 362,817 tons; exports, 236,749 tons. In 1897 tons of freight received by all ways of transportation were 509,930; shipped, 277,519.

*Manitowoc.*—An Indian village flourished at the mouth of the Manitowoc river as early as 1822, and travelers frequently tarried there. Between 1835 and 1837 the first permanent settlement began. Speculation was wild in those times, and to offset the reputed gold resources of Kewaunee, the promoters of Manitowoc, in 1836, proposed building a railroad to the Pacific. William and Benjamin Jones, of Chicago, organized the Manitowoc Land Company, and lots were sold as high as \$1,000. Benjamin Jones reached the village on the schooner Oregon in July, 1837. The panic came about this time and killed the ambitious little lake port. Commencing about 1846 a tide of settlers poured in, and the village took a fresh start, its lumber interests developing rapidly. Ship building has been

an active industry of Manitowoc. The *Citizen*, a small sailing craft, of 61 tons, was built in 1847 by Capt. Joseph Edwards. From that year to 1881, 123 vessels with a tonnage of 34,214 were built at Manitowoc. This list includes 9 side-wheel steamers, one of which was the *Northwest*, built in 1866 for the Goodrich Transportation Company by G. S. Rand & Co. She was of 1,100 tons burden, cost \$120,000, and was then considered the finest craft of her kind on Lake Michigan. Manitowoc was the center of the shipbuilding interests of Wisconsin. The population is now estimated at 12,000. The city has made large appropriations for harbor improvements.

*Manitowoc* harbor is on Lake Michigan at the mouth of Manitowoc river which was originally obstructed at its mouth by a bar with a depth of about 4 feet of water. In the river inside the bar the water was about 11 feet deep.

The first government appropriation was made in 1852. The total appropriations aggregate \$400,480.

The result of the work up to June 30, 1898, is as follows: North pier 1,970 feet long, from 20 to 24 feet wide, and projecting into the lake beyond the shore line 1,650 feet, built in 1854-1885; south pier, 2,400 feet long, from 20 to 24 feet wide, projecting beyond the shore line 1,950 feet, and a breakwater 400 feet long and 24 feet wide; depth of channel projected is 20 feet.

The importance of this harbor was materially increased in 1896 by the action of the Wisconsin Central Railroad Company and the Chicago & Northwestern Railroad Company, the former building a short section of railroad that gives them a connection with existing railroads and a car-ferry across Lake Michigan, a short through line between the East and the West. The latter company also established a car-ferry line across Lake Michigan from this point in connection with lines of railroad already built.

The arrivals and departures of vessels from this port during 1895 were 1,876, with a tonnage of 930,787; 1896, 2,205, tonnage, 1,220,062; 1897, 3,320, tonnage, 4,205,414.



The imports, in 1896, consisted of 301,698 tons, chief of which was coal and coke, 220,000 tons; exports were 121,578 tons.

In 1897, receipts by lake were 370,341 tons, of which 250,000 tons were coal; shipments were 401,781 tons, largely grain and mill products.

*Two Rivers*, at the junction of East and West Twin rivers, 7 miles north of Manitowoc, was in early days the center of a flourishing lumber district. Oliver Louguire, a French Canadian known as "Alonzo," was the first permanent settler. The first sawmill was erected in 1836, but not until 1845 was much progress made. Since the timber has disappeared other industries have appeared. The population in 1880 was 2,052, and is now 4,100.

*Two Rivers* harbor is situated near the junction of the east and west branches of Twin rivers, which unite a short distance from the lake shore, the water flowing into the lake through a channel or outlet which originally had a depth of from three to four feet.

The project of improvement of this harbor, adopted in 1870, provided for the formation of a channel of navigable width, and not less than thirteen feet in depth below the plain of reference in coast charts for Lake Michigan, viz.: 3.06 feet below the high water level of 1838, by the construction of two piers extending from the mouth of two rivers lakeward to the 19-foot curve line in Lake Michigan, and an entrance channel between them, the piers to be 270 feet apart. This work was completed during the past year. The actual depth June 30, 1898, was 12.5 feet.

The first appropriation was made in 1871. The total appropriation aggregated \$214,500.

In 1897, 1,644 vessels arrived with a registered tonnage of 255,713. In 1896, 47,506 tons of freight, including 45,000 tons of logs, were imported, and 2,593 tons exported; in 1897, 51,281 tons were exported and 10,919 tons imported.

*Kewaunee* once aspired to become the rival of Chicago and Milwaukee. Early in the thirties the report gained circulation that rich gold deposits had been found in

that locality. Preparations were made in 1836 to lay out a city of magnificent proportions. Capitalists became interested. Lots in the swamps sold for \$1,000 per acre. There was a serious decline before the village was fairly started. In 1843 the first cargo of lumber was taken from a mill on Kewaunee river. Navigation was very difficult on account of shallow water. Business improved when, in 1851, a pier was built out into the lake. The population in 1860 was 1,050, and is now estimated at 500.

Kewaunee harbor is situated at the entrance to Kewaunee river, the natural entrance to which had in August, 1880, a channel 25 feet wide and three feet deep. This entrance was obstructed by submerged boulders. For the last 2,000 feet of its course the river flowed nearly parallel with and a short distance from the lake shore. Inside the bar at its mouth the river had a depth of about 11 feet.

The first appropriation, made in 1881, was \$5,000; the total appropriations are \$150,014. By the local authorities there was appropriated \$8,042.

The result of work is as follows: 1,900 feet of north pier from 16 to 20 feet wide, and projecting beyond the shore line 1,825 feet; the south pier being 1,850 feet long and from 16 to 20 feet wide, and projecting beyond the shore line 1,575 feet. The depth is 14.5 feet.

Vessel arrivals in 1897 were 925, registered tonnage 476,187. Freight received by lake in 1896, 109,557 tons; 1897, 32,772 tons; freight shipped in 1896, 33,065 tons; 1897, 276,671 tons, mainly flour.

*Ahnapee*.—In 1834 Joseph McCormick, of Manitowoc, visited Ahnapee, and bore back an enthusiastic report of the richly timbered country. But it was not until after 1851 that Ahnapee was permanently settled. Edward Tweeddale and John Hues located there in 1851, and other pioneers soon after followed. In 1856 the first steamboat, the *Cleveland*, of Manitowoc, landed at Ahnapee. The north pier was built the same year. The village in 1860 contained 948 inhabitants, and has now 1,600.

Ahnapee harbor is near the mouth of Wolf river, which was originally obstructed by a bar with a depth of about 4 feet of water. Inside the bar in the river there was a depth of about 8 feet. The first appropriation, made in 1872, was for \$25,000. The entire appropriations aggregate \$183,220.

The result of the work here up to June 30, 1898, was as follows: Two piers, the north one being 1,102 feet long, and the south one, 1,125 feet long. The depth of water at the entrance was about 16½ feet and 11 feet at the shore end of the piers. The distance between the piers is 205 feet.

In 1897, 716 vessels arrived with a tonnage of 472,642. Freight received by lake in 1896 was 8,258 tons; in 1897, 11,090 tons. Freight shipped by lake in 1896, 213,570 tons; 1897, 27,158 tons.

*Sturgeon Bay* came into prominence with the construction of the Sturgeon Bay ship canal. This enterprise was agitated as early as 1860 by Joseph Harris, who four years later, when State senator, secured the passage of an act of incorporation. Land grants were secured, but not until 1872 was the first shovelful of earth thrown. In 1880 light draft vessels passed through, and the canal has since been greatly improved. By the construction of this canal the passage through Death's Door has been avoided, and a large traffic built up between Green Bay and Chicago.

Sturgeon Bay Canal Harbor of Refuge is at the Lake Michigan end of the canal leading through into Sturgeon bay from Lake Michigan. In its natural condition the shore line was continuous, there being no protection from storms raging from northeast to southwest.

The project of constructing a harbor here was adopted in 1873. As completed in 1884, it consists of two piers, each 1,344 feet long and 850 feet apart on the shore line, converging in such manner as to form a harbor entrance of about 335 feet in width. The inclosure is about 17 feet deep.

The total number of appropriations aggregate \$183,182.

*Green Bay* is one of the oldest historical points on Lake Michigan. Jean Nicolle,

the discoverer of Lake Michigan, visited Green Bay in 1639. Here Father Allouez, in 1669, established an Indian mission, which remained for many years. La Salle and the Griffin arrived at Green Bay September 2, 1679. Father Charlevoix, who visited Green Bay in 1721, says the French posts, which had been built many years earlier, stood on the west side of the Fox river, half a league from its mouth. The first permanent settlement was made here in 1745 by Augustine De Langdole, an Indian trader from Mackinaw. A detachment of British troops took possession October 12, 1761, but abandoned the post two years later, during Pontiac's war. In 1815 a United States trading post was established at Green Bay, and in 1816 Fort Howard was erected there by the government. In 1820 there were over sixty dwellings and 500 inhabitants at Green Bay. The Walk-in-the-Water arrived with troops and passengers August 5, 1821. A line of steamboats was established, a few years later, between Detroit and Green Bay. In 1834 John P. Arndt built the first schooner in Green Bay, the Wisconsin. Tail Point light was established in 1848, five and one-half miles north-northeast from the mouth of Fox river. A new lighthouse was built in 1859. The population is 22,000.

Green Bay harbor is near the mouth of Fox river, the river discharging into the southern end of Green bay. In its original condition direct entrance to the harbor was blocked by Grassy island, situated in Green bay about one and a half miles from the mouth of the river, and the channel was intricate and tortuous with a minimum depth of about 11 feet.

The project of improvement for this harbor was adopted in 1886, the object being to provide a dredged channel 200 feet wide, 15 feet deep and two miles long, in place of the natural channel, with a revetted cut across Grassy island to the 13-foot curve in Green bay. The project was modified in 1892 so as to increase the depth of the channel to 17 feet, and extend it in a direct line through the bar off Sable point, making its total length 16,500 feet.

Appropriations made up to June 30,

1898, amounted to \$372,602, when the condition of the work was as follows: Pile revetments at Grassy island 220 feet apart, the east revetment being 705 feet long and the west revetment 620 feet long. The channel for a width of 200 feet is 16.5 feet deep, and is used by the largest vessels on the lakes. The location of Green Bay is favorable for a large local trade, being the terminus of two railroads and of a transportation line from the lower lakes. The arrivals of vessels at this harbor, in 1896, were 591, tonnage 233,004; 1897, 589, tonnage 239,313. Imports for 1896 were 352,097 tons, of which 170,311 were coal, and 149,276 general merchandise; exports were 211,196 tons.

*The Improvement of Fox River.*—Fox river rises in Columbia county, Wis., and empties into Lake Winnebago, which is about 35 miles long and 15 miles wide. From Lake Winnebago it flows northward into Green Bay, an arm of Lake Michigan.

At Portage City the Fox river is separated from the Wisconsin river by a distance of only two miles, and these two rivers were the early route from the Great Lakes to the Mississippi river. From Portage City to Lake Winnebago the distance is 110 miles, and the fall is about 30 feet; from Lake Winnebago to Green bay the distance is 35 miles, and the fall is 170 feet.

The upper Fox river flows through extensive marshes and lakes, and its flow is inconsiderable. Near Lake Butte des Morts it unites with the Wolf river, the latter having a larger discharge than the Fox. The lower Fox carries off all the water brought down by the Upper Fox, the Wolf and other small streams, and discharges about 900,000 cubic feet per minute when at the maximum flow. A low-water discharge of 2,320 cubic feet per minute has been given. But the average high and low water discharges have as yet not been accurately ascertained. From Lake Winnebago to De Pere the river was obstructed by rapids, and at places portages had to be made.

When Wisconsin was admitted into the Union, in 1846, Congress granted it a quantity of land for the purpose of improving

the navigation of the Fox and Wisconsin rivers, and for the construction of a canal to unite these two rivers at or near the portage. To carry out the object of this Act of Congress the State of Wisconsin, in 1848, established a board of public works, which began the improvement and carried it forward until 1853, when all the property and franchises were transferred to the Fox & Wisconsin Improvement Company. After various vicissitudes, financial and otherwise, the entire property was sold in 1866 to the Green Bay & Mississippi Canal Company, and finally by this company to the United States in 1872 for \$145,000, with reservations, somewhat indefinite in terms.

In 1872 there were on the upper Fox river four locks, four dams and one canal; on the lower Fox 18 locks, nine dams and eight canals.

When the United States Government purchased the works there was but one stone lock, the others being temporary structures and in bad condition. There was no low-water navigation and the lower Fox navigation was uncertain.

The project of the government for the improvement of this river contemplated the replacing of the temporary structures with permanent works, the construction of five additional locks on the upper river, and widening and deepening the channel throughout the river and canal to a depth of six feet and to a width of 100 feet. The estimate for both rivers made in 1874 and 1879 was \$3,745,663. To carry out this project required the deepening of Fox river by rock excavation, and dredging from Portage City to Montello to four feet, and from Montello to Green Bay to six feet, the widening of the river channel to 100 feet throughout; dredging the channel in Neenah river, and the removal of the bar at the mouth of Fond du Lac river.

The appropriations made by Congress from 1867 to 1898, inclusive, for the improvement of the Fox and Wisconsin rivers were \$3,071,250.

The works at the close of the year ending June 30, 1898, were as follows: On the upper Fox river, nine locks, seven dams and four canals; on the lower Fox



river, 18 locks, nine dams and eight canals. Of the locks 15 were of stone, 14 of them built by the United States Government, and one by the canal company, the latter repaired by the United States in 1878. The remaining 12 locks are of wood.

During the year 1895 there were transported on Fox river 229,109 tons of freight, 140,675 tons of which were of logs; 1896, 148,110 tons, of which 58,159 were logs; 1897, 191,236 tons, of which 97,342 tons were logs. Of the boats navigating the river, in 1895, 25 were steamboats (6 of the steamboats being pleasure yachts), 6 sailing vessels and 6 tows.

*Pensaukee* was the site of the earliest settlement in what is now Oconto county, Wis. A sawmill was built on *Pensaukee river*, two miles from its mouth, in 1829. In 1860 *Pensaukee* had 295 inhabitants, but the number is now less than 100.

*Pensaukee harbor* is situated at the mouth of *Pensaukee river*, Green Bay, and in its natural condition it had a depth of water of but three feet. Private enterprise undertook the improvement of this harbor, and when the United States Government took hold of it the depth had been increased to from eight to ten feet to a width of 30 feet, and there had been constructed 1,600 feet of pile and slab pier.

The project adopted in 1883 was the construction of a single slab pier 2,650 feet long, in continuance of the pier previously built, and dredging a channel 100 feet wide on the south side of the pier to a depth of 11 feet, connecting the deep water of the river with the deep water in Green bay. The three appropriations made aggregate \$16,000.

The slab and pile pier, built by private enterprise, was nearly destroyed by a storm in 1885, and this destruction left the portion of the pier built by the United States Government a detached work. During the seasons of 1895, 1896 and 1897 there were no arrivals of vessels reported at this harbor.

*Oconto*, situated at the mouth of *Oconto river*, on Green bay, has been prominent in the development of the lumber interests of that region. Settlements began, and mills were erected as early as 1836. Growth was

slow, and in 1860 there were only 889 people in the village. The present population is 7,000.

*Oconto harbor* is situated at the mouth of the *Oconto river*, which empties into Green bay some miles southwest of *Menomonee harbor*. In its natural condition the channel at the entrance to this river was obstructed by a bar with less than three feet of water over it. Private interests increased this depth to four and one-half feet. The first appropriation made by the government for this improvement was in 1881, and the aggregate amount appropriated has been \$78,000.

The project of improvement adopted in 1882 proposed to secure a nine-foot channel from Green bay to the city of *Oconto*, a distance of two miles, at an estimated cost of \$150,000, the piers to be parallel and 150 feet apart. The north pier is 1,603 feet in length and the south pier 2,151 feet long.

In 1898 the depth of water was about 8.5 deep. The north pier has been partially burned, and the south pier injured by the movements of ice.

In 1897 630 vessels arrived; freight received, 53,570 tons; shipped, 62,683 tons.

*Menominee*, Mich., and *Marinette*, Wis., lying on opposite sides of *Menomonee river*, Green bay, may properly be considered as one port. *Menominee* is known chiefly as a shipping port for iron ore from the *Menomonee range*. An Indian trader, *Louis Chappee*, came to *Menominee* in 1796 as the agent of the American Fur Company. William Farnsworth and his intelligent wife, *Marinette*, granddaughter of a *Menominee* chief, also engaged here in the fur trade in 1822, dispossessing their French predecessor by strategy. Farnsworth & Brush built the first sawmill on the *Menominee river* in 1832. The New York stopped at *Menominee* in 1836, and from that time the marine interests of the port gradually improved. In 1869 the Goodrich Transportation began making regular trips. In 1871 the Chicago & Northwestern railroad was extended from Green bay to *Menominee*, and the next year to *Escanaba*. The Wisconsin & Michigan road was built a few years later. *Menominee* has a population

of 15,000 and Marinette has 16,000 people. The present lumber interests are very large.

The improvement of Menominee river by the United States Government was begun in 1891 under the provisions of the River and Harbor Act of September 19, 1890. At this time there had been dredged by private enterprise a tortuous channel with a governing width of 50 feet, and a depth of 14 feet, extending up the river for a distance of about two miles. The original approved project was for dredging a channel 200 feet wide and 17 feet deep from Green bay up the river as far as the funds available would allow, the object being to create a navigable channel 17 feet up to N. Ludington Company's mill. The project was modified by reducing the upper 2,600 feet to a width of 100 feet. In 1896 the project of 1890 was modified by the formation of a turning basin 600 feet long, 250 feet wide and 17 feet deep, and extending the channel 425 feet to the west line of Wells street with a width of 75 feet and a depth of 17 feet.

Up to June 30, 1898, there had been expended upon this improvement \$95,427.

Menominee harbor, or Marinette, is situated at the mouth of Menominee river. Previous to the commencement of improvements here the depth of water at the mouth of this river was about 5 feet, and the river was navigable for boats of that draft for a distance of 2 miles above its mouth.

A survey of this harbor was made in 1871, and a project was adopted, providing for a channel entrance 200 feet wide and of a depth of not less than 15 feet. This project as modified has been completed, and all the necessities of commerce are fully met by the present condition of the harbor.

The total appropriations from 1871 to 1898 were \$229,212. The two piers are 400 feet apart, the north pier being 1,854 feet long, and the south pier, 2,710 feet long, with a dredged channel 3,000 feet long, 200 feet wide and 17 feet deep from the 17-foot curve in Green bay to the lower end of the Menominee river.

Lumber is the principle article of ex-

ports by lake, shipments being, in 1896, 252,752 tons out of a total of 254,157 tons, and in 1897, 544,500 tons out of a total of 612,926. Receipts by lake were 7,534 tons in 1896 and 16,337 in 1897. In 1897, 798 vessels arrived, having a registered tonnage of 227,696.

*Cedar River*, Mich., is at the mouth of Cedar river, thirty miles northeast of Menominee. A bar gave a depth of about 4 feet of water, while in the river above the water was about 9 feet deep. The width of the river at its mouth was about 175 feet. A channel about 9 feet deep and 50 feet wide extending through the bar was dredged by private enterprise before the United States Government took up the work of improvement. The first appropriation by the government, made in 1882, amounted to \$15,000, and a like amount, was appropriated in 1884.

The project of improvement was to secure a channel of 15 feet from Lake Michigan into Cedar river, and the construction of two parallel piers, 200 feet apart, extending from the mouth of the river to the 17-foot curve in Green bay.

The village of Cedar River has a population of 400, and its chief industry is lumbering.

*Escanaba*.—For many years the peninsula that forms the site of Escanaba was known as Sand Point. The first house was built in 1852 by Sinclair & Ludington, who operated a sawmill at Flat Rock. This dwelling stood alone until 1863, when the Chicago & Northwestern Railroad Company broke ground for the construction of a line between Negaunee and Escanaba. Two years later the road was completed. In the meantime dock No. 1 had been constructed by the company, and the shipment of ore began at once. Escanaba has grown steadily, and is the chief iron ore shipping port of Lake Michigan. Besides iron ore, it carries on a fair lake traffic in lumber and other commodities. The population in 1890 was 8,124, and is now estimated at 9,000.

Escanaba is situated on a point of land dividing Green bay from Little Bay de Noquette, and the latter forms one of the

best harbors on the lakes. The entrance is three miles in width and its depth sufficient for the largest vessels. The port has four enormous iron ore docks, fitted with all modern improvements.

These docks have a capacity of 95,000 tons of ore, and can load 36 vessels simultaneously. There are also large merchandise docks, and the coal and fish trades are also important.

*Manistique* was formerly known as *Epsport*. Lumbering is its principal industry. Its population in 1881 was 600, in 1890, 2,100, at present 3,500. It is situated at the mouth of Manistique river, and is one of the oldest towns of the upper peninsula. It has lumber, iron and lime interests, but is also winning an enviable reputation as a summer resort.

Originally the depth of water at this place was but eight feet. There had been built by the Chicago Lumbering Company about 3,200 feet of slab piers at the mouth of the river, and a channel had been dredged to a depth of 11 feet, the piers being each about 1,600 feet long and 350 feet apart. Little work has been done by the government.

#### LAKE SUPERIOR HARBORS.

Equal to its name, this great body of water may be called a lake of magnificent distances. Its harbors as compared with those of the other lakes are few. Its shores for long and uninterrupted stretches are often desolate, though charming in scenic effect. In the measure of industrial life its years are few, and for its age it promises best of them all.

#### UNITED STATES SIDE.

*Sault Ste. Marie.*—In point of historic interest Sault Ste. Marie is, perhaps, unsurpassed on the lakes. As the crucial point in the magnificent commerce to and from Lake Superior its value is unequalled. It was visited by the early missionaries. It was here that St. Lussou, in 1671, formally took possession of the region of the Great Lakes. It was a favorite resort for the migratory aborigines on account of its

most excellent fishing. The construction of the Sault canals have immortalized the locality. The village was organized in 1874, and is now a city of 9,000 inhabitants.

*White Fish Point*, a village of 200 people, is situated on Whitefish bay, 45 miles north of Sault Ste. Marie. It has small fishing interests.

*Grand Marais*, Michigan, lies between White Fish Point and Marquette, south shore of Lake Superior. It was first permanently settled in 1879. The village contained a small sawmill and headquarters for two lumber companies. The sawmill shut down in 1884, and the village gradually died out until 1892 there were only about 100 inhabitants and one store. The only industry is fishing.

In the fall of 1893 the Manistique railroad was completed to Grand Marais, and a vigorous growth at once started up. The old mill was reconstructed, and enlarged to three times its former capacity, and fitted with all the latest improvements in machinery.

The harbor is seldom entirely empty. Frequently twelve or fourteen vessels are to be seen at once loading lumber for other lake ports, or timber for Liverpool market. The population has increased to about 2,000, and as soon as the projected improvements on the harbor are completed there will be further industries established.

The present lumber company occupies all the water front on the west end of the harbor, and until the dike closing the east end of the harbor is completed there can be no further industries requiring a water front established.

The supply of hard wood tributary to Grand Marais is almost unlimited, and a large supply of hemlock is waiting for a market.

The harbor of refuge at Grand Marais was originally accessible only for vessels drawing less than nine feet of water, but within the bay there is ample depth to float the largest vessels. As a harbor of refuge it is of pressing importance to the shipping navigating the lakes in its vicinity, as the many wrecks in that neighborhood bear testimony.



The project for the improvement of this harbor was adopted in 1881, and has for its object the creation of a safe entrance into the bay for vessels of the largest size. This object is attained by the construction of parallel piers projecting into the lake and dredging out a channel between them, connecting the deep water in the lake with the deep water in the bay, and by closing up the natural entrance, some 5,700 feet in width, by a solid pile dike driven with a slope toward the waves and strongly braced. The proposed length of the east pier is 1,800 feet, and the west pier had attained a length of 1,656 feet, and the east pier a length of 1,153 feet. A channel 150 feet wide and 17 feet deep had been dredged between them in 1889, but it shoaled, and in 1891 it was again dredged, this time to a width of 175 feet, and to a depth of at least 17 feet. The entire amount expended on this project up to June 30, 1898, was \$299,160. A very safe and commodious harbor of refuge now exists for vessels drawing 13 feet of water. The total appropriations for this work from 1880 to 1898 were \$305,250.

The traffic is rapidly increasing. In 1892 155 vessels arrived; in 1896, 328; in 1897, 404. In 1887 freight received and shipped was 1,910 tons; 1890, 9,405 tons; 1895, 56,208 tons; 1896, 90,497 tons; 1897, 142,536 tons. Exports in 1897 were 128,536 tons, of which all, but 600 tons of fish, consisted of logs and lumber products; imports were 14,000 tons.

*Munising* is located on Munising bay, within three miles of the Pictured Rocks. Lumbering interests have been active. The population is about 3,000. The harbor is formed by Grand island, and is one of the finest on the lakes.

*Marquette*.—This thriving city and iron ore shipping port is located on Iron harbor, an inlet of Lake Superior. The coming of the white men in 1844-45 changed the scene from a picturesque wilderness to an active mining camp. Progress, however, was comparatively slow until the Sault canal was opened in 1856. In the following year the Iron Mountain railroad was completed from the mines to the harbor. In 1856 the Jackson company completed

an ore dock. Shipments of ore have been advancing since, with comparatively few interruptions. In 1867 the Peninsular division of the Chicago & Northwestern road was completed from Negaunee to Escanaba, which partially destroyed the monopoly enjoyed by Marquette up to that year. The early name of the village was Worcester. A charter was received from the Legislature in 1859, and a city government was established in 1871. The population in 1890 was 9,724, and has since increased.

Marquette has been the metropolis of the mining regions of Lake Superior. It now possesses immense ore docks, and is connected by rail with large iron ore mines in the Marquette and Gogebic ranges. There are large manufacturing interests located in the city, and in addition to its magnificent business advantages Marquette has all the attractions of a cool and delightful summer resort.

The harbor at Marquette was originally entirely unprotected from east or northeast storms. In 1866 a project was approved for the construction of a breakwater extending from the shore into the bay a distance of 2,000 feet. This breakwater was completed in 1875, but in consequence of the increased shipments of ore from this port it became necessary to extend the breakwater. The construction of a concrete breakwater was begun in June, 1895, 470 feet being built that season, and in 1898 1,000 feet were completed.

The cross section of this superstructure, designed by Major Sears, is at variance with the established practice both in this country and abroad, inasmuch as it presents a slope to the waves of 45 degrees, the intention being in the adoption of this slope to lessen the shock by leading the waves to slide over the top without impact and to fall onto a cushion of water inside, where they produce no disturbance. The admirable adoption of the new work is in the estimation of the engineer in charge justifying the construction.

The total appropriations for this harbor from 1867 to 1896 are \$533,230.

During the fiscal year ending June 30, 1872, there were 390 arrivals of vessels,

with a registered tonnage of 185,000 tons. In 1896 there were 1,032 arrivals with a registered tonnage of 793,092; in 1897, 731 vessels, tonnage 788,556. In twenty years the commerce of the port has amounted to at least \$73,000,000. The exports in 1896 were 1,645,467 tons, of which 1,565,227 were iron ore. Imports were 186,590 tons, chiefly coal. Exports in 1897 were 2,381,756, including 2,282,556 tons of iron ore; imports, 147,765 tons.

The harbor of refuge at Presque Isle Point, Marquette bay, is a new work ordered by Act of Congress of June 3, 1896. Marquette bay is a small semielliptical one, which makes in from Lake Superior just north of Marquette harbor, proper. The shore of this bay is within the city limits of Marquette, and the bay is a little over one and a half miles across the channel which subtends the opening. The greater portion of this area has a depth of from 18 to 40 feet of water, with a hard sand and rock bottom. The project is a construction of 1,000 feet of breakwater, of which 500 feet were completed in 1897.

Up to 1896, there was no commerce for this bay except in connection with a lumber mill at the mouth of Dead river, a small, clear stream with fine water power several miles back. This mill has a dock from which to ship its lumber. Recently the Lake Superior & Ishpeming Railroad Company has constructed a railroad for the shipment of ore from the mines near Ishpeming, Mich., and this road has its harbor terminus on Marquette bay. It has built a large ore dock and commercial dock. Arrivals of vessels in 1896 were 207; in 1897, 555. Shipments of freight in 1896 were 339,258 tons; 1897, 1,067,330 tons, chiefly iron ore. Receipts in 1896 were 8,523 tons; in 1897, 27,913 tons.

*L'Anse* is located at the head of L'Anse bay, and at the mouth of Fall river. The M. H. & O. R. R. Company's docks were built here in 1872. The village was platted in 1871, it had a speculative boom and lots sold for \$1,000 to \$2,000. The panic of 1873 necessarily killed the boom. The village is the center of a large lumber district and has a population of 1,100.

*Copper* harbor, near the extreme end of Keweenaw point, was an excellent harbor, and during the mining excitement in 1846 was thronged with adventurers and speculators. It was named Copper harbor on account of the copriforous veins outcropping there and plainly visible. The once thriving town has since fallen into decay.

*Eagle* harbor, sixteen miles west of Copper harbor, was first occupied about 1844. In that year the first piers were built by Edward Taylor. Additions were made from time to time, forming the present pier dock. Eagle harbor was opened with a channel, 13½ feet deep, in 1877, and is a good refuge for vessels, except in a severe northwest wind. The present population of Eagle harbor is several hundred.

*Eagle* harbor has been improved so as to form one of the harbors of refuge for the south shore of Lake Superior. Before improvements commenced here the entrance to the small bay, which forms the harbor, was protected by a rock ledge having but 8½ feet of water over it at the shoalest point.

The project for its improvement was adopted in 1866, and as modified it provided for a channel through the rocky ledge 130 feet wide and 14 feet deep, marked by two guiding cribs, one on each side of the channel. The work was completed in 1879, and appears to meet the present demands of commerce. The amount expended on the work up to June 30, 1896, was \$95,992. Traffic is small.

*Eagle River* is located some 10 miles west of Eagle harbor, and at the mouth of Eagle river. Early mining operations were carried on in the vicinity, and a dock was built at the mouth of the river.

*Ontonagon*.—In 1847-48 the Ontonagon district came to the front as a producer of mass copper, and overshadowed the older Keweenaw district. The village of Ontonagon at the mouth of the river grew rapidly, and became for a time the leading town on the lake. The mines were situated in the interior 14 miles up the river. In 1843 James K. Paul had preempted a claim, where Ontonagon now stands, and the same year erected a cabin, but settlement was slow until the mining activity started up

several years later. One of the first water crafts that arrived at Ontonagon from below was the Napoleon. Improvements of the harbor were commenced in 1856 by C. F. Harvey under a contract with the county, but not until the work was undertaken, in 1867, by the government did it progress satisfactorily. The population in 1880 was 780. It is now about 1,200.

The harbor at Ontonagon is at the mouth of Ontonagon river. In 1867, before the improvement of the mouth of this river commenced, it had a depth of but 7 feet of water. At that time the project for securing 12 feet of water was adopted.

The west pier was built to the length of 2,675 feet, and the east pier to the length of 2,315 feet. This brought the outer end of the west pier very nearly to the 18-foot curve; but this curve has since advanced out into the lake, because of the very considerable amount of sand carried into the lake by the river. This sand is deepest during the spring freshets, and the subsidence of each flood is attended by a deposition of material in the upper part of the harbor above and below the bridge. This port therefore needs dredging every year, while the part between the piers needs it on the average only every other year.

The total cost of this improvement up to June 30, 1898, was \$336,205. The commerce of this port has been roughly estimated at about \$1,000,000 per year. The appropriations from 1867 to 1898, for the improvement of this harbor, were \$345,100. The total number of vessels entering and departing from this harbor in 1895 was 986, with an aggregate tonnage of 296,490 tons.

A fire in August, 1896, almost obliterated the town, destroying all its commercial industries, and wiping out most of the business and residence portions. The great fire destroyed the principal commercial industry, the plant of the Diamond Match Company, and it has not been rebuilt.

*Ashland*, one of the important ports of Lake Superior, marks the site that was visited by the earliest French traders. Alouez in 1665 found at Ashland, or Chequamegon bay, the Hurons, who had fled from the vindictive Iroquois, and sought

refuge at almost the extremity of Lake Superior. Here he established a mission, which, however, was afterwards to La Pointe on Madeline island, and for almost two centuries Ashland's fine harbor facilities were neglected. In 1854 Asaph Whittlesey and George Kilborn left La Pointe in a row boat to select a town site near the head of the bay. They selected the plateau where Ashland now stands, and erected a cabin. An excursion from La Pointe visited the pioneers in the steamer Sam Ward, which thus became the first Ashland marine arrival. For six years the struggling settlement was known as Whittlesey, but in 1860 the name became Ashland. Martin Beaser built a dock in 1855. It was swept away in 1856. The steamer Superior came into the bay soon after, saw the fragments of the dock, and instead of landing put back to La Pointe. In 1872 the Wisconsin Central railroad began work on the bay. In that year S. S. Vaughn also built a dock extending about 1,000 feet into the bay. The docks of Ashland are now quite efficient, and a large iron ore traffic from the Gogebic range here seeks a lake outlet. The population of Ashland in 1890 was 12,310, and is now 16,000. Besides the large ore traffic there is a considerable lumber trade at Ashland.

The harbor at Ashland originally had no protection from the waves which rolled into the bay nor from the waves generated within the bay itself by storms. The length of this bay is considerable, and it was therefore necessary to protect the wharves from the waves.

The approved project is for the construction of a breakwater, 8,000 feet long, and for a channel of 16 feet of water. In July, 1898, the pier had attained a length of 7,363 feet, the total amount expended up to that date being \$237,503. The aggregate amount appropriated from 1886 to 1898 was \$239,500.

The commerce of this port during this period has increased from 892 arrivals and clearances, with cargo tonnage of 1,400,000 tons, in 1887, to 5,164 arrivals and clearances, with cargo tonnage of 2,400,000 tons, in 1896. During this period the



commerce of this port is roughly estimated at a valuation of \$300,000,000. In 1896 estimated imports were 355,000 tons, and exports 2,036,337 tons, of which 1,566,337 tons were iron ore.

*La Pointe* was an important mission station under French occupation, and was also a port of some influence during the period of active fur trading. The American Fur Company, in 1835, established headquarters at *La Pointe*. Warehouses and docks were built, and the population at that time was about 2,000, composed of Indians, voyageurs, traders and half breeds.

*Bayfield* is located on the site of an Indian trading post. Alexander Henry built a house there in 1765. A few score of half-starved Indians dwelt at the place, the wars for several years having ruined the fur trade. The first permanent settlement was made in 1856 by a party of nine men under charge of John C. Henley. A dock was built the same year. *Bayfield* was made a port of entry in 1858, and in 1859 the revenue cutter John B. Floyd was stationed there. The harbor is formed by islands, which shelter it from winds and make unnecessary any engineering works. It has attained prominence as a summer resort, and its fishing industries are large.

*Portwing* is situated on Flag lake about three-quarters of a mile within the entrance to Flag river, which latter lies on the south shore of Lake Superior, nearly due east from Duluth and distant therefrom about 34 miles. A preliminary examination of a harbor at *Portwing*, Wis., was made in 1896 by Major Clinton B. Sears, with a recommendation that it is worthy of improvement by the general government.

*Duluth*.—If Chicago is indebted to Lake Michigan and connecting waters for its marvelous growth, in like manner Duluth is the masterpiece of civilization in the Lake Superior region, younger in years than Lake Michigan's metropolis, but rich in prospects and promises. Duluth is geographically located to command a fabulous trade. It is an iron-ore shipping port of commanding importance; but not to iron ore alone, or chiefly, does it owe its power. It is a grain-shipping port of wonderful

prominence, tapping with its feeding rail lines the immense productive regions of the northwest, but not to grain alone or chiefly does it owe its greatness. It receives a vast tonnage of coal by lake, to supply the great northwest with cheap and desirable fuel; but not to coal alone or chiefly is due the supremacy of Duluth. Each of these factors contribute to the upbuilding of the Zenith city, these and many others.

Minnesota point, a peculiar natural formation of land, quite narrow and over six miles in length, forms the natural breakwater protecting the harbor of Duluth and Superior from the waters of the great lake, and through which, in 1870, a canal as an entrance to the harbor was cut, thus greatly facilitating the approach of large vessels to St. Louis and Superior bays.

In the winter of 1855-56 steps were taken for platting Duluth. The founders of the city were George E. and William Nettleton, and J. B. Culver and O. W. Rice, all of whom then lived in Superior, and Robert E. Jefferson, who resided as a squatter on Minnesota point. These gentlemen, after considering several names presented to them, decided to bestow the name of an early French explorer upon their foundling and called it DuLuth, and in May, 1857, it was incorporated as a town by an act of territorial legislation. Duluth has to this day absorbed six separate towns,—Portland in 1870, Lakeside in 1893, West Duluth and Oneota in 1894, and New Duluth and Fond du Lac in 1895.

The schooner *Algonquin* was the first sailing vessel to appear at Duluth, in 1855, owned and commanded by a captain named Davidson, and two years later she was chartered by Capt. J. J. Hibbard to carry supplies to Burlington bay on the north shore. In the fall of 1858 she was towed to the shore on the easterly side of Quebec pier at Superior, when the upper part of her hull was consumed by fire. The next boat owned at the head of the lakes was the small propeller *Seneca*. She was the property of Thomas G. Barnes, of Superior, and plied on the bays until 1861, when she was taken to Ashland, by Captain Walling, thence to Detroit, where her boiler exploded, scalding

to death the captain and another man. In 1860 the schooner Neptune, scow built, engaged in the lumber trade between Oneota, Milford, Portage Lake and Marquette. On her first trip that year she was met by a northaester and driven back, and in trying to make the entry ran ashore on the lower end of Minnesota point. She was released, however, and continued in the lumber trade until 1865, when she was wrecked near Eagle river while in command of Captain Mathews. Then followed' the schooners Pierrepoint and Ford. In 1868 R. G. Coburn chartered the tug Agats, of Ontonagon, and used her in towing scows in the stone trade from Fond du Lac for the construction of the government piers at the entry. She is yet in commission at Duluth and known as John H. Jeffrey, Jr., and owned by Captain Jeffrey. The first steam ferry boat to ply between Duluth and Superior was the side-wheel steamer Kasota, commanded by Captain George D. Greenfield, his brother, Charles T., being engineer. The steamer J. C. Frost was also used as a ferry boat the same year.

The harbor of Duluth, which was formerly attached to the Marquette district, was erected into a port of entry on May 23, 1871, but the first vessel enrollment, the schooner Charlie, was made in April, the same year.

Before the commencement of the building of the Lake Superior railroad in 1869, to connect the head of Lake Superior and St. Paul, Duluth was but a village of 100 inhabitants, some of whom had lived there for 15 years, awaiting the destiny which they believed would come. Within four years after this road was built the population was 5,000. The city has grown rapidly ever since. The construction of the Northern Pacific & Great Northern gave connection with the Pacific ocean, and stimulated the growth of the city to a wonderful degree. The population of Duluth is now about 60,000.

Duluth harbor is one of the best in the world: Its ore docks are among the largest and best equipped. Its traffic in 1897 reached the enormous tonnage of 4,776,080, while that of Superior was 3,699,144 tons,

a total of 8,475,224 tons. The receipts of Duluth in 1897 were 885,623 tons, of which 682,274 were coal. The shipments were 3,890,457 tons, including 2,342,679 tons of iron ore, 1,062,208 tons of flour and grain and 454,856 tons of lumber.

Duluth harbor originally consisted of two parts, that upon the open lake exposed to storms, and that on the land-locked bay of Superior and St. Louis, where there was no water over eight feet in depth except in the St. Louis river, which touched the dock front at one point only, and to reach deep water in the lake required a detour of six miles to get through the natural entrance.

The original project for the improvement of this harbor, adopted in 1871, consisted of a breakwater in Lake Superior outside of Minnesota point, in continuation of one already commenced by the Northern Pacific Railroad Company. This breakwater was destroyed by a storm in 1872 and abandoned. In 1873 Congress provided for maintaining the canal through Minnesota point, which had been constructed by the city of Duluth, and for dredging channels in Superior bay to the docks at Duluth.

Work under this project was continued until 1881, when the piers of the canal had been repaired and somewhat extended, the harbor basin dredged of moderate capacity, and a narrow channel dredged in Superior bay from Duluth to deep water at Connor's point. The amount expended under this project was \$270,651.

The present project was adopted in 1881, and was modified in 1884 and in 1888. The project is to preserve the piers bordering the canal, to dredge an inner harbor to accommodate vessels drawing 16 feet of water, to make a channel parallel with the Bark Point dock line 100 feet wide, a channel east of Rice's point 200 feet wide and 16 feet deep, and a channel along the north shore of St. Louis bay 200 feet wide and 16 feet deep.

The total amount expended on this harbor up to June 30, 1898, was \$893,218. The result is a good harbor basin to an extent of 104 acres, dredged to a minimum depth of 16 feet, the maintaining of the channel piers and channels east and west of

Rice's point and on the north shore of St. Louis bay, and the carrying of the 16-foot depth to New Duluth, not far from the head of navigation on the St. Louis river.

The city of Duluth has deeded to the United States all its remaining landed interests in and adjacent to the Duluth canal, and condemnation proceedings for the balance of the land needed have been begun.

The lake commerce of this port, Duluth and Superior, during the last season of navigation amounted to over \$118,000,000, as a very conservative valuation, and since the United States took charge of this harbor this commerce has amounted to over \$1,100,000,000.

The Sundry Civil Act of June 4, 1897, appropriated \$437,500, all of which will be expended under existing contracts for dredging and in purchasing land for the Duluth canal; for the land under and adjacent to the southerly pier of the Wisconsin entrance, and in executing contracts to be made this fall and winter for the Duluth canal piers.

*Superior.*—This city is situated across the bay from Duluth, and shares in its greatness.

The opening of the Sault canal in 1855 gave speculative values to prospective harbors at the head of Lake Superior. Lands on the site of Superior City had been surveyed in 1853, and in the fall of that year G. R. Stuntz, B. Brunson, E. F. Ely and associates made a town site settlement at the head of the bay, and named it Endion. The site was that of an old French trading post. Other tracts were pre-empted, and in 1854 W. W. Corcoran and others organized the town of Superior. The propeller *Manhattan* visited the head of the lake in 1855, and the same year the steamer *Sam Ward* brought emigrants and freight. But the vessels engaged in the Lake Superior trade seldom sailed to the head of the lakes, and the settlers obtained their supplies very largely in small boats from Ontonagon. Many improvements were made, including a wharf. Between 1854 and 1857 over 2,000 lots were sold. Ten railroads were projected, and vast enterprises of various character flourished in prospectu. The panic of 1857 almost de-

populated the rapidly-growing port. The city has grown rapidly in recent years. In 1890 it contained 26,168 inhabitants and the present population is 31,000.

Superior possesses nine extensive coal docks, including two modern bee-hive docks, the largest on the lakes, several merchandise docks, five grain elevators, ore docks 2,400 feet long on the Duluth & Winnipeg railway. The American Steel Barge Company has at at West Superior a large steel ship-building plant, where the construction of the whale-back type of propellers and barges has been carried on very extensively. The plant includes a mammoth dry-dock, machine shops, etc. The company owns and operates 31 propellers and barges.

The harbors at Superior and St. Louis Bay consisted originally of a natural entrance protected by shifting bars with a scant 9-foot navigation, of the St. Louis river cutting diagonally through Superior bay and touching the dockage front at one point only, and of Superior, St. Louis and Allouez bays, with an average of eight feet of water only.

The United States Government began the work of improving the harbor in 1867, by building two parallel piers, which are 350 feet apart, and a good deal of dredging was done in order to obtain the required depth of water between them, and in the channels leading from Connor's point, and the Quebec dock, and the new connecting channel in St. Louis bay. The original project has been modified from time to time to meet the necessities of the rapidly-increasing capacities of lake vessels, the last modification being made by Act of Congress approved August 5, 1886, which added the improvement of the channel in St. Louis bay. The work done has resulted in giving 16-foot navigation at the entrance through the natural channel, through an artificial channel leading to the Quebec dock, and from there along the dock line to "the Gate," and an artificial channel along the dock line in St. Louis bay clear through to the natural channel at Grassy point.

The appropriations for improving the harbor at Superior Bay and St. Louis Bay



have been as follows: 1867, \$63,000; 1869, \$45,000; 1870, \$40,000; 1871, \$60,000; 1872, \$50,000; 1873, \$64,284; 1876, \$3,000; 1878, \$3,000; 1879, \$5,000; 1880, \$5,000; 1881, \$10,000; 1882, \$40,000; 1884, \$45,000; 1886, \$22,500; 1888, \$50,000; 1890, \$65,000; 1892, \$70,000; 1894, \$50,000; total, \$695,833.

By Act of June 3, 1896, the two harbors of Duluth and Superior were unified under the name of the former.

In 1897 \$437,500 was appropriated for improving the unified harbor, and in 1898 \$770,138 was appropriated. Continuous contracts amounting to \$3,080,553 have been placed for further improvements. This harbor consists now of the Duluth canal, the Wisconsin entrance, Superior bay, Allouez bay, St. Louis bay, and St. Louis river to the limits of the cities of Duluth and Superior, about twenty miles from the original natural entry.

Following is a comparative table of vessel commerce of the principal ocean and lake ports of the United States, as compiled from the annual report of the United States chief of engineers for 1897.

[R., Register; F., Freight.]

NAME	TONNAGE	VALUATION
New York .....	a 19,303,721 R.	b\$1,103,772,509
Philadelphia and Delaware River.	a 15,268,365 F.	a 623,896,493
Chicago, South Chicago and Michigan City c .....	a 14,394,736 R.	d 120,000,000
Duluth-Superior .....	a 13,333,068 R.	111,676,900
Buffalo .....	a 11,053,206 R.	d 100,000,000
Baltimore .....	a 6,868,120 R.	b 97,029,363
New Orleans .....	b 3,774,688 R.	b 116,304,668
Boston .....	a 3,578,190 R.	a 194,765,282
Portland, Oreg. ....	a 696,796 R.	b 8,346,824
Savannah .....	b 577,016 R.	b 23,038,848
Mobile .....	a 375,180 F.	a 10,131,288

a Foreign and domestic. c Chamber of commerce report.  
b Foreign only. d Estimated.

*Two Harbors*, situated at Agate bay, 29 miles northeast of Duluth, is one of the largest ore shipping ports on Lake Superior. The entire product of the Vermillion range and a portion of the Mesaba output is shipped from this port. It contains a population of about 2,100, and has five good docks.

The harbor at Agate bay is semi-circular, of 2,000 feet radius. When breakwater piers are built it will form a harbor of refuge.

There is a good navigable depth throughout the harbor, or at least the greater part of it, but it is exposed to storms from the southwest, and from reverse swells of hard storms from the northeast.

Because of the rapid increase of commerce at this port, Congress, in 1886, made an appropriation of \$22,500 for its improvement, and the project approved in 1887 was to construct two breakwater piers on a line toward each other from the eastern and western points of the bay, to be 1,000 feet and 900 feet long, respectively, leaving an opening between the two piers of 1,340 feet, and enclosing an area of 109 acres. Work upon the east pier was begun in 1887, and by the close of the season of 1891 there had been built 750 feet of it. Of the west pier 550 feet have been completed. There had been expended on the work in July, 1898, \$156,389. Total appropriations to 1898 were \$172,500.

There is not yet perfect security from southwest storms for vessels lying at the merchandise dock, but it is no longer necessary to leave the harbor and seek security elsewhere. The favorable results already obtained with the portions of the breakwater now built are much greater than anticipated, and emphasize the advisability of speedily completing the remainders of the projected piers.

Vessels arriving and departing at Agate bay, the year, number of vessels and respective estimated tonnage being given: 1885, 174, 295,800; 1886, 263, 460,000; 1887, 465, 697,500; 1888, 749, 1,436,000; 1889, 1,255, 2,400,000; 1890, 1,050, 2,625,000; 1891, 1,250, 2,915,000; 1892, 1,330, 3,101,600; 1893, 1,178, 2,386,200; 1894, 1,618, 3,236,000; 1895, 2,494, 4,900,000; 1896, 1,982, 4,360,000; 1897, 2,064, 6,192,000.

*Grand Marais* harbor is the only harbor of refuge on the north shore of Lake Superior between Agate bay and the international boundary line. It is an elliptical bay of about half a mile by one-fourth of a mile in area. It has an opening on the south side, which was originally about 1,000 feet wide; but it was not of sufficient depth nor was it sheltered sufficiently either for

commercial purposes or for a harbor of refuge. Before improvements commenced here there was a maximum depth over a limited area of 14 feet, but the average depth was not over 9 feet.

The improvement of this harbor commenced in 1880, and in July, 1898, there had been completed 350 feet of the breakwater, and the 16-foot average depth was 25 acres in extent. Total appropriations are \$133,350.

Rich mineral deposits are alleged to exist in the back country. Should these be opened up and connected with the lake by railroad, the harbor may become of some importance for the shipment of ore.

In 1878, 4 tugs and 5 schooners entered and departed from this harbor, with a total business of 60 tons, valued at \$6,000. In 1897, 185 vessels entered the harbor. Lake receipts in 1897 were 1,719 tons; shipment, 58 tons.

#### ON CANADIAN SIDE.

The harbors on the northern shore of Lake Superior are few and comparatively unimportant.

*Sault Ste. Marie* harbor is near the eastern end of the Sault Ste. Marie canal. At the session of Parliament of 1884 there was voted the sum of \$4,000 for dredging the shoal of sandstone rock off the wharf so as to give a depth of 16 feet. In 1885 there was voted the sum of \$4,000. At the session of 1886 \$4,000 more was voted to continue dredging. The work was successfully carried forward to completion in June, 1889, the depth of water outside the face of the wharf varying from 14 feet 6 inches to 18 feet.

The lights in St. Mary's river are as follows: Sailors' Encampment, lower range light, on the west shore of St. Joseph's island, one half mile below Ross wharf, established in 1892, and a light 64 feet east from shore line and 246 feet from front light, a lantern on a mast, established in 1892. Rains Wharf range, one light on shore north of wharf, established in 1892, and another light, 436 feet from front light, established in 1892. Sailors' Encampment, upper range lights, one 640 feet from shore,

established in 1892, and another light 260 feet from front light, a lantern on a mast, established in 1892. East Neebish, upper range, one light 150 feet from east shore, established in 1892, and another, 302 feet from front light, a lantern on a mast, established in 1892. Sault Ste. Marie light is on the Government wharf 25 feet from the southeast corner, established in 1894, to indicate the Government wharf. Footes Dock light is at the shore end of the dock near the bank of the river, established in 1890. Point aux Pins light, on the outer end of a low sand point, wooden structure, established in 1873.

Starting from the Sault Ste. Marie canal and passing toward the westward on this northern shore the lighthouses are as follows: Corbay Point lighthouse, on Batchewan bay, established in 1889. Not far from this lighthouse is the Pancake Shoal Bell Buoy, in 30 feet of water on the southwest edge of Pancake shoal, established in 1894. This shoal is of considerable extent, and has only from 4 to 6 feet of water on it. Gargantua lighthouse is on the summit of a small island in the mouth of the harbor, established in 1889. Caribou Island lighthouse is on a small island southwest of Caribou island, established in 1886. Michipicoten Island lighthouse is on a headland on the east side of entrance to Quebec harbor, established in 1872. Agate Island lighthouse is in Quebec harbor, Michipicoten island, established in 1872. Peninsula harbor lighthouse is on the south end of the island at the entrance to the harbor, established in 1891. Battle Island lighthouse is at the eastern entrance to Nepigon bay. It is the farthest north of any lighthouse on the lakes. It was established in 1877. Porphyry Point lighthouse is at the entrance to Black bay, Edward island, Algona, and was established in 1873. Lamb Island lighthouse is at the west entrance to Nepigon bay, and was established in 1877.

*Port Arthur*, situated on Thunder bay, is an important Canadian shipping port. It is on the line of the Canadian Pacific railroad, which controls a connecting lake line of steamers. It is the shipping port for the large grain crops transported from the

farms of Manitoba by the Canadian Pacific road. The population of Port Arthur is 3,000.

In 1883 there was voted \$50,000 toward the construction of a breakwater and the dredging of the mouth of the Kaministiquia river. In 1884 there was voted \$150,000 toward the construction of a breakwater, and \$25,000 was contributed by the town of Port Arthur. At the close of 1884 1,000 feet, or one-half the work, was completed, the amount expended during the year being \$84,832.

The contract for dredging for a channel 3,700 feet long, 100 feet wide and 18 feet deep through the center, and 14½ feet deep at the sides, dredged through the shoal off the mouth of the river, was for the sum of \$20,000. During the summer of 1885 dredging was completed, a channel 15 feet deep being provided up the river for more than a mile, which proved of great benefit to the trade of Fort William.

In 1885 the sum of \$70,000 was voted for continuing the work of building the breakwater, and at the session of 1886 the sum of \$16,000 more was granted. This sum added to the \$70,000 and the \$25,000 which Port Arthur had previously contributed, made a sum available of \$111,000 for the work. In 1886 there was voted the further sum of \$10,000 for the breakwater, which was carried eastwardly 1,600 feet.

In 1888 a contract was made for the construction of 1,500 feet more of the breakwater, with piers at each end. To the westwardly the work was practically completed, an opening 350 feet wide being left for vessels to enter, between the old work and the new. Work commenced again on this contract in 1889, and 300 feet built that year. The work done was very substantial, and the harbor was scarcely equalled by any on Lake Superior.

In 1890 considerable progress had been made on the 1,500 feet of breakwater, and a large amount of stone was placed on the talus in front of the wood work then under construction. During this same year considerable dredging was done on the shore line off the mouth of the river, in order to accommodate the large vessels that then

were calling at Fort William to load with grain.

The lighthouses in the vicinity of Port Arthur are as follows: Two Kaministiquia lighthouses, one on the north shore of the river near Fort William, established in 1873 and rebuilt in 1876; the other 879 feet from the above, established in 1873 and rebuilt in 1895. Port Arthur, on crib work, 31 feet from west end of breakwater, established in 1882. Pie Island, about 400 feet from wharf, west extremity of island and west entrance of Thunder bay, established in 1895. Victoria Island, near the western end of the island, established in 1881 and rebuilt in 1887. Thunder Cape, at the entrance to Thunder bay, established in 1874.

#### UNITED STATES ENGINEERS.

The harbor work of the Great Lakes, on the U. S. side, was in 1898 in charge of the following members of the U. S. corps of engineers: Lake Ontario, east of Oak Orchard, N. Y., Major W. S. Stanton, Oswego, N. Y.; Lake Ontario at Oak Orchard, N. Y., westward to Lake Erie at Erie, Pa., Major Thomas W. Symons, Buffalo, N. Y.; harbors on Lake Erie west of Erie, Lieut.-Col. Jared A. Smith, Cleveland, O.; Detroit river to and including Lake Huron, Lieut.-Col. G. J. Lydecker, Detroit, Mich.; eastern shore Lake Michigan to and including Michigan City, Ind., Lieut.-Col. G. J. Lydecker, Detroit, and Capt. C. McD. Townsend, Grand Rapids, Mich.; Chicago harbor and river and Calumet river, Major W. L. Marshall, Chicago, Ill.; west shore Lake Michigan, north of Chicago, Capt. George A. Zinn, Milwaukee, Wis.; Lake Superior, Major Clinton B. Sears, Duluth, Minn. The river and harbor work is in charge of the War Department at Washington.

#### HYDROGRAPHIC DEPARTMENT.

In recent years the Navy Department became domiciled on the Great Lakes by the establishment of a hydrographic office at Chicago in 1893. Lieut. George B. Blow, of the United States navy, had been in charge of the naval exhibit at the World's



Fair, and near its conclusion the Chicago Board of Trade and a number of prominent citizens petitioned the Naval Department for a permanent representation at this city. As a further inducement free office rent for five years was tendered by a prominent building management. As a result the hydrographic office was opened, with Lieutenant Blow in charge. At Cleveland in 1895 a second hydrographic office on the Great Lakes was established, and since then other similar offices at Buffalo, Duluth and St. Mary's. The officers in charge in the spring in 1898 were all transferred to active naval service, and the hydrographic work temporarily left in charge of nautical

experts, except at Chicago, where Lieut. W. J. Wilson, formerly assistant, was assigned to full control. The Hydrographic Department constructs charts, locates reported shoals, issues monthly bulletins to mariners and in various other ways has made itself valuable to the lake marine. It is the only harbor representation of the naval department on the Great Lakes, except the officers in the lighthouse service, which is conducted by the Treasury Department with officers from both army and navy, the former in charge of buildings and the latter of buoys and other floating beacons.

## CHAPTER XXI.

### LIGHTHOUSES.

ANTIQUITY OF BEACONS—BEACONS USED BY THE COLONISTS—FIRST LIGHTHOUSE IN AMERICA—FIRST LIGHTHOUSE ON THE GREAT LAKES—GENEROUS APPROPRIATIONS BY CONGRESS—DISTRICTS ARE ORGANIZED—LIGHTHOUSE BOARD APPOINTED—FIRST APPARATUS USED—CHANGE IN APPARATUS—EXPERIMENTS WITH ILLUMINANTS—DESCRIPTION OF LIGHTS—HOW FAR LIGHTS MAY BE SEEN—FOG SIGNALS—NUMBER OF LIGHTHOUSES IN THE WORLD—OLD CLEVELAND LIGHTHOUSE—MODERN LIGHTHOUSE, ETC., AT CLEVELAND—LIGHT ON SPECTACLE REEF—STANDARD ROCK LIGHT—NUMBER OF LIGHT STATIONS—LISTS OF UNITED STATES LIGHTHOUSES—CANADIAN LIGHTHOUSE SYSTEM.

\* \* \* \* and then he took the shield,  
Massive and broad, whose brightness streamed as far  
As the moon's rays, and as at sea the light  
Of beacon, placed in some lonely spot,  
By night, upon a mountain summit shines  
To mariners, whom the tempest's force has driven  
Far from their friends across the fishy deep;  
So from that glorious buckler of the son  
Of Peleus, nobly wrought, a radiance streamed  
Into the sky, \* \* \* \* \*

—Bryant's *Translation of the Iliad*.

THE description above of a beacon light upon a mountain summit is so definite that it is impossible to believe that the father of poetry did not, in penning the original of these lines, have aids to navigation in his mind

It may, therefore, be set down as cer-

tain that the lighting of the seacoast is practically as old as the commerce of the world, and this fact is in strange and strong contrast with the establishment of life-saving stations and the invention of life-saving apparatus, which are scarcely more than a century old. Lighthouses are not only aids to commerce, but they are the inducers or breeders of commerce, for where they are there come ships. The guide-boards to commerce at the present time are lighthouses, bell-buoys, whistling buoys, fog signals, steam whistles, trumpets and sirens, many of which are of very recent origin. But the lighthouse was undoubtedly the first of the guides set up for the purposes for which all are designed.

It is claimed by some that the famous Colossus of Rhodes, erected three hundred years before Christ, held a signal lamp in its uplifted hands, but the famous lighthouse on the northeast point of Pharos, a rocky islet off the coast of Egypt, commenced by Ptolemy I, and finished about 280 B. C., was looked upon as one of the wonders of the world. It appears to have been about 400 feet high, and to have lasted 1,600 years. The fire constantly kept lighted on its summit was said to be visible for forty miles. This is the first light of undoubted record.

*Beacons by the Colonists.*—The lighthouse system of this country is almost coeval with its commerce, and it is altogether likely that the early colonists established beacons on prominent headlands to guide boats returning from the dangers of the sea and liable to encounter the danger of the coast. The first authentic record of this having been done at the public expense is that of the general court of the Province of Massachusetts Bay. On March 9, 1673, a petition was presented to this court from the citizens of Nantasket (now Hull), Massachusetts, for a diminution of their taxes because of the material and labor they had expended over and above their proper proportion, in the building of a beacon on Point Allerton, the most prominent headland near the entrance to Boston harbor. There is evidence also that bills were made out, and paid out of the public funds for making and furnishing "fier-bales of pitch and ocum for the beacon on Allerton Point," which "fier-bales" were burned in an iron grate or basket on top of the beacon, for the building of which Nantasket had contributed 400 boat-loads of stone.

*First Lighthouse in America.*—The first lighthouse on the American continent was erected on Little Brewster island at the entrance to Boston harbor in 1715-16, and cost £2,385. It was supported by light-dues, of 1d. per ton on all outgoing and incoming vessels, except coasters. Other colonies followed the example of Massachusetts, and when the United States by the Act of August 7, 1789, accepted the title to the lighthouses on the coasts they were

eight in number, and extended from Portsmouth harbor, N. H., to Charleston, S. C.

*The First Lighthouse on the Great Lakes* was built at Erie in 1818. By an Act passed April 2, 1811, "the occupancy and use of certain lands near Presqu'ile, not less than two or more than four acres are ceded to the United States, for the purpose of erecting a lighthouse." The "Presqu'ile" light was rebuilt in 1857.

The first lighthouses on Lake Superior were built as follows: At Whitefish Point, in the season of 1847; Copper Harbor, in 1848; Eagle Harbor, in 1850; Ontonagon, in 1852, and Marquette, in 1853.

From the time the General Government took possession of the lighthouses they have been, with the exception of a brief period, under the direction of the Secretary of the Treasury; but from 1820 to 1852 they were in immediate charge of the fifth Auditor of the Treasury, who was during all that time Stephen Pleasanton, and who was generally known as the general superintendent of lights. During his administration of the system, the establishment was increased from 55 lighthouses and a few buoys to 325 lighthouses, 35 light ships, numerous buoys and monuments and other aids to navigation, most of which were on the Atlantic coast.

#### UNITED STATES LIGHTHOUSE SYSTEM.

*Generous Appropriations by Congress.*—It is somewhat remarkable that Congress, which for many years was exceedingly conservative in its appropriations for the benefit of many branches of the public service, should be so profuse in its support of this particular branch, so much so that it was seriously questioned whether the money appropriated could be wisely expended. In 1837 this question was raised in connection with the proposed erection of certain lighthouses, for which appropriations had been made. In the Act of March 3, that year, the proviso was introduced that the board of naval commissioners should cause an examination to be made in order to ascertain whether the safety of navigation required additional facilities. The report of these commissioners made to the next session of

Congress was such that the erection of thirty-one of the proposed lighthouses for which \$168,700 had been appropriated was postponed, the report concluding with the following language:

"When the great importance of the lighthouse system is considered in relation to the safety of human life and of the vast amount of property, to the facilities and rapidity of communication which is given between different parts of our Atlantic and Lake coasts, and to the cost of establishing and supporting it, the board would respectfully suggest whether some additional measures may not be desirable for obtaining the necessary information to secure the greatest public advantage for the expenditures which may hereafter be authorized for this purpose."

Considerable discussion was had as to the most economical methods of expending the moneys appropriated by Congress, the result being that in the Act of July 7, 1838, clauses were incorporated providing among other things that the Secretary of the Treasury should import two sets of lenticular apparatus and one set of reflector apparatus, all of the most improved kinds, and have them set up and their merits tested by careful experiment, and in order that Congress might have more accurate information than it was thought it had previously, and upon which it had been legislating, the President of the United States was required to divide the Atlantic and Lake coasts into districts, and to appoint a naval officer to examine each district and to report upon the condition of his district.

*Districts Are Organized.*—Under this Act the President divided the Atlantic coast into six districts, and the Lake coasts into two districts, and in August, 1838, an officer was detailed to each, a revenue cutter or a hired vessel was assigned to each officer, and he was instructed by General Superintendent Pleasanton on August 4, 1838, to make his examination and report as soon as possible, in order that the result might be submitted to Congress. The reports made to the general superintendent showed that the administration of the lighthouse system could be greatly improved, and

continued to be the subject of discussion in the department and in Congress until 1845, when Hon. Robert J. Walker, Secretary of the Treasury, sent Lieuts. Thornton A. Jenkins and Richard Bache abroad to procure information which might tend to improve the system. Lieuts. Jenkins and Bache spent the greater part of a year in Great Britain, and June 22, 1846, recommended the reorganization of the system by the appointment of an engineer and optician and a number of district superintendents to assist the general superintendent under the direction of the Secretary of the Treasury. They also earnestly recommended the substitution of the French lenticular apparatus for the reflectors then in use.

*Lighthouse Board Appointed.*—The Secretary of the Treasury submitted this report to Congress, and asked for authority to organize a board to consist of the fifth auditor of the Treasury, the superintendent of the coast survey, two naval officers, two engineers (one military, one topographical) and a secretary. On March 3, 1851, an Act of Congress was approved which authorized the Secretary of the Treasury to put the Fresnel illuminating apparatus into the lighthouses as rapidly as he thought best, and to appoint a board of proper persons to inquire into the condition of the establishment.

This board on January 30, 1852, made a full and exhaustive report of the condition and methods of the lighthouse system, and recommended that the lights be classified into orders; these orders running from 1 to 6, indicating the magnitude and intensity of the light, the first order being the largest, on the same principal as that used by astronomers in classifying the stars. It recommends the use of the Fresnel lenticular apparatus in place of the old system of Argand lamps and parabolic reflector. The plans and suggestions of this report were embodied in an Appropriation Bill which became a law August 31, 1852.

This Act constituted the lighthouse board, as it exists to-day, and required the President to appoint two officers of the navy, of high rank, two engineer officers of the army, two civilians, an officer of the



engineers of the navy, and an officer of the engineers of the army, who should be secretary, who should constitute the lighthouse board. On October 9, 1852, the board was organized by the election of Commodore Shubrick as chairman.

Upon investigation this board found that the lenticular apparatus could be managed by the average lighthouse keeper after instruction by an expert, and came to the conclusion that its use was more economical in oil than the reflector apparatus. They therefore pressed its substitution for the old apparatus with the result of a diminution in the cost of oil. Sperm oil had been used then for a long time, but when it became too expensive the board began to cast about for a substitute, and after much experiment adopted lard oil at a large saving of cost and without any diminution of light. Twenty years later it tested mineral oil and substituted this for lard oil, proper lamps having in the meantime been invented for its use. So far gas has not been found well adapted to use as a lighthouse illuminant. This board has also organized and built up by degrees a competent and intelligent corps of lighthouse keepers, whose tenure of office is practically during good behavior, and whose physical and mental welfare are carefully looked after, in order that they may feel some degree of contentment in their isolated situations.

The parabolic reflector was first used somewhere between 1763 and 1777, by Mr. Hutchinson, dockmaster of Liverpool, England. The object aimed at in the adoption of the parabolic reflector was to prevent the deviation of the rays of light above and below the horizontal plane by reflecting them downward and upward to the horizontal, and at the same time to permit them to diverge in all directions in azimuth. This object, however, could not be fully secured, because the flame of a lamp, whether the wick be flat or circular, is of magnitude, not a mere mathematical point. And even if the light were a mere point a cone of rays would still escape beyond the edges or lips of the reflector, and thus be lost to the mariner above or below his line of vision.

*Changes in Apparatus.*—There have

been many and important changes in the illuminating apparatus used in lighthouses. From the "fier-bales of pitch and ocum" used on Allerton point in 1673 to tallow candles used in the first lighthouse on the continent, the country went next to the spider lamp, and in 1812 the United States Government bought of Winslow Lewis the patent for his "magnifying and reflecting lantern," consisting of a lamp, a reflector and a magnifier. The lamp was constructed on the principle of the Argand fountain lamp, and burned from 30 to 40 gallons of oil per year. The principal merit of this lamp appears to have been its economy, as Mr. Lewis, who had fitted thirty-four lighthouses with his apparatus, contracted to maintain the lights for one-half of the oil previously consumed. This system, as improved, remained in use until 1852, when the lighthouse establishment was turned over to the lighthouse board, and then the reflectors were replaced by the lenticular apparatus of Fresnel, the adoption of which made it possible for a lighthouse keeper to keep a good light, and although the first cost of the lens was quite large the saving in oil was so great that the expenses of making the change was saved in a few years, and at the same time the light was greatly improved, the board reporting that at least four times as much light for the use of the navigator was obtained as the best system of reflector lights furnished that had ever been devised, and at the same time at the consumption of not more than one-fourth the quantity of oil.

The lenticular apparatus consists of a central powerful lamp emitting luminous beams in every direction, around which is placed an arrangement of glass so formed as to refract these beams into parallel rays in the required direction. A first order lenticular apparatus is a most beautiful object. It stands nearly twelve feet high, is six feet in diameter, and involves in its structure some of the highest principles of applied science. The cost of the lenses alone varies from \$4,250 to \$8,400.

*Experiments with Illuminants.*—When the lighthouse board came into power, one of its first efforts was directed toward securing a more economical illuminant than

sperm oil, the price of which had been gradually rising because of the yearly diminution of the catch of whales. The board called to their assistance certain noted scientists who made analyses, quantitative and qualitative, of sperm, whale, shark, fish, seal, colza, olive, lard and mineral oils. It was found that colza, the oil expressed from the seed of several plants, especially that of the wild cabbage, was largely used in France; and that it complied with all the required conditions, except that it was produced abroad. The board therefore stimulated the production of this plant in this country, and the manufacture of the oil from its seed at home. In 1861 the board purchased and used over 5,000 gallons of colza oil at \$1.10 per gallon, and in 1862 it purchased 10,000 gallons at \$1.10 per gallon, and 2,000 gallons at \$1 per gallon, sperm oil at the same time selling at \$1.64½ per gallon.

In the meantime the board was experimenting with lard oil, and found that it gave equally as good light, was more certain in quantity and more economical in price. From 1867 to 1881, inclusive, the board purchased from 44,000 gallons in 1881 to 113,000 gallons in 1875, or during the fifteen years 1,269,000 gallons. The cost per gallon varied from an average price of 52.646 cents in 1879 to \$1.871 in 1880, the highest price being \$2.27 per gallon, and the lowest 48½ cents per gallon.

The great danger attending the use of mineral oils has been known ever since they have been used, and hence their use as an illuminant for lighthouses has been adopted only in recent times, and with great caution. In 1864 the keeper of a lighthouse on Lake Michigan substituted a lamp burning kerosene oil for one burning lard oil. Soon after commencing its use he attempted to extinguish the light by blowing down the chimney; an explosion occurred, and set his clothing on fire. He had scarcely reached the bottom of the stairs when another explosion took place which blew the entire lantern from the tower and destroyed the lenticular apparatus. But as mineral oil had been successfully used in Europe for a number of years the board set about the

solution of the problems connected with its use and transportation, and after some years of experiment and litigation over a certain patent, succeeded in obtaining or producing a mineral oil lamp, which consumed all of its carbon. This lamp was introduced into the lighthouses. In 1881 mineral oil was used throughout the lighthouse establishments with the exception of seventy-three lighthouses of the highest powers, in which this mineral does not burn to so great an advantage as lard oil. It was claimed at that time by the board that five gallons of mineral oil was equal in light giving quality to four gallons of lard oil, while lard oil cost 75 cents per gallon and mineral oil only 14 cents per gallon.

While gas has not, in this country, been found well adapted to use in lighthouses, yet it is occasionally used near large cities, as at Cleveland, Ohio, where it has been used for some years.

"There is a class of lights shown on the heads of long piers built out into lakes and sounds to make harbors," observes Arnold Burgess Johnson in his "Modern Lighthouse Service," "the outer ends of which piers are difficult and dangerous to reach in heavy weather, especially as they are often swept by waves as well as winds. Hence it has been found necessary to build elevated walks on trestles, often at a cost far exceeding the cost of the lighthouses themselves. This is now no longer done, as a burner has been invented on the constant-level principle, which will keep a light burning four, six, and even eight days and nights, so that the light need only be visited in safe weather. Still the lighthouse board requires that its keepers shall visit these lights daily, when possible, that they may keep them clean and bright, and that they may put the automatic machinery in thorough working order. These burners are used at some twenty places on the east and west coasts and on the lakes. The combination gas machine is used to furnish light at some of the stations on the northwestern lakes, among others that at the Maumee range lights, Lake Erie, Ohio; at the Marquette breakwater pierhead, Lake Superior, Michigan, and at the St. Louis river pierhead.

Lake Superior, Minnesota. This combination gas-machine works automatically, making the gas from gasoline and furnishing a light which can burn, according to the size of the machine, from thirty to ninety days without attention."

Gas buoys have in recent years been successfully introduced, and are gaining in use and popularity.

*Description of Lights.*—A first order lenticular apparatus stands nearly twelve feet high, is six feet in diameter, and, as already stated, involves in its structure some of the highest principles of applied science. A second order light apparatus is four feet, seven inches in diameter, the lens costing from \$2,760 to \$5,530. A third order light apparatus is three feet, three and three-eighth inches in diameter, and costs for lenses alone from \$1,475 to \$3,650. A fourth order, or harbor light apparatus, is nineteen and five-eighth inches in diameter, and costs from \$350 to \$1,230 for the lenses alone. A fifth order harbor light is fourteen and one-half inches in diameter, and costs for lenses alone \$230 to \$840. A sixth order, or the smallest size in use, is eleven and three-fourths inches in diameter, and costs for lenses alone, \$190 to \$315.

*How Far Lights May be Seen.*—The following is a table of elevation of objects above lake level with their corresponding distances of visibility:

H'GHTS IN FEET	DISTANCES IN STATUTE MILES	H'GHTS IN FEET	DISTANCES IN STATUTE MILES	H'GHTS IN FEET	DISTANCES IN STATUTE MILES
5	2.96	70	11.07	250	20.92
10	4.18	75	11.46	300	22.91
15	5.12	80	11.83	350	24.75
20	5.92	85	12.20	400	26.46
25	6.61	90	12.55	450	28.06
30	7.25	95	12.89	500	29.58
35	7.83	100	13.23	550	31.02
40	8.37	110	13.87	600	32.40
45	8.87	120	14.49	650	33.73
50	9.35	130	15.08	700	35.00
55	9.81	140	15.65	800	37.42
60	10.25	150	16.20	900	39.69
65	10.67	200	18.71	1,000	41.83

The distances of visibility given in the above table are those from which an object may be seen by an observer whose eye is at

the lake level; in practice, therefore, it is necessary to add to these a distance of visibility corresponding to the height of the observer's eye above lake level.

Twin River Point light seen just at the horizon, what, under ordinary conditions of the atmosphere, for example, is its distance from the observer?

Height 110 feet, distance visible  
(according to table)..... 13.87 statute miles.  
Add distance corresponding to  
to height of observer's eye  
above lake level, 15 feet..... = 5.12 statute miles.

Distance of light..... 18.99 statute miles.

*Fog Signals.*—In addition to lights the lighthouse board has from time to time introduced different kinds of fog signals, as sound will penetrate a dense fog or blinding snowstorm when a light cannot be seen. The principal fog signals are the trumpet, the steam whistle, the automatic whistling buoys, the bell buoys, the bell boat and the siren, and bells run by machinery impelled by clock work. The trumpet was for a number of years preferred to any other form of fog signal; but now the siren is used to a greater extent than formerly, and would be to a still greater extent than it is but for the cost. A first-class steam siren can be heard under ordinary circumstances to a distance of 20 miles, and when the air is quite still to a distance of 30 miles.

A siren of the first-class consists of a huge trumpet with a wide mouth and narrow throat, and is sounded by driving compressed air or steam through a disk placed in its throat. In this disk are twelve radial slits; back of the fixed disk is a revolving plate containing as many similar openings. The plate is rotated 2,400 times a minute, and each revolution causes the escape and interruption of twelve jets of air or steam through the openings in the disk or revolving plate. In this way 28,800 vibrations are given during each minute that the machine is operated; and, as the vibrations are taken up by the trumpet, an intense beam of sound is projected from it. It is made of various sizes and classes, the number of slits in the disk in its throat diminishing with its size. The dimensions above given are of the largest size. "Its density,



quality, pitch and penetration render it dominant over such other noises after all other signal sounds have succumbed."

The steam whistle comes next to the siren, and is largely used with satisfactory results where great intensity of sound is not needed. The trumpet comes next to the steam whistle. The machine that makes the most noise consumes the most fuel.

One of the most curious and useful signals known to this branch of the public service is Courtenay's automatic whistling buoy. It was invented by J. M. Courtenay, of New York, was first used in the United States, and afterward generally adopted in Great Britain. It consists of an iron pear-shaped bulb, about 12 feet in diameter, with a tube 20 inches in diameter and 40 feet long, extending through the bottom. The water in this tube acts by its inertia as a piston to draw in air through an orifice supplied with a retaining valve, and to expel it through a ten-inch whistle in the top of the buoy. It is not now made so large as at first, and serves every purpose equally as well. Its action depends on the undulations of the water at the surface, and it is necessarily moored in deep water. On July 1, 1880, the board had 25 of these buoys in position, and they were found satisfactory in some places where a lighthouse would otherwise have to be erected.

*Number of Lighthouses in the World.*—The whole number of lighthouses in the world is somewhat more than 6,000, of which Europe has about 3,400, North America about 1,400, Asia about 500, and the rest of the world about 1,000. The United States has a little more than one-eighth of the whole number.

*The old Cleveland lighthouse* was established in 1829. The brick tower was rebuilt in 1872. Its height from the stone foundation was 83 feet, but as it stood on high ground the light was 157 feet above the level of Lake Erie. The fixed white light shone out for a distance of about 21 miles over the lake, but it was discontinued in 1892 as being no longer needed. The cost of establishing this station was \$55,775; it consumed 301 gallons of mineral oil per annum, and it had two keepers, one of

whom received \$560 per year, the other \$450. The tower and house connected with it stood on the corner of Water and Main streets.

*The modern lighthouse at Cleveland* was erected on the east end of the breakwater in accordance with a contract made in 1884, the building up of the foundation being deferred, however, until July 1, 1885, in order to allow time for the crib to settle. When the station was ready, the iron tower at Genesee station, N. Y., was removed to Cleveland.

Congress, by Act of March 3, 1889, appropriated \$5,200 for establishing a steam fog signal at this point, placing it on the breakwater. Later it became necessary to build in the rear of the signal a reflector in order that the citizens of Cleveland would not be annoyed by the sounding of this signal, the reflector tending to throw the most of the volume of sound lakeward, where it was a welcome one to mariners.

At the present time there is on the east pier at Cleveland, Ohio, a pyramidal wooden tower, 30 feet high, square in plan, and an elevated walk along the pier to the shore.

*On Spectacle Reef.*—One of the most famous lighthouses in the United States, and there are many of them, is on Spectacle reef, which stands on a limestone reef at the northern end of Lake Huron, near the Straits of Mackinaw, the work for which was prepared at Scammon's harbor, sixteen miles distant. There is an open stretch of water to the southeastward of 170 miles, but the ice fields, which are here moved by a current and which are many thousands of acres in extent and often two feet thick, had to be specially provided against, their momentum being overcome by a structure, against which the ice is crushed; its motion is so impeded by this structure that it grounds on the shoal, on which there is but seven feet of water, and there it forms a barrier against on-coming ice fields.

The tower of this lighthouse is 32 feet in diameter at the base and 18 feet at the spring of the cornice, 80 feet above the base. The focal plane is 86 feet, 3 inches above the water. The work on this lighthouse was begun in May, 1870, and the

light was first exhibited from the finished tower in June, 1874. When the keeper returned to this tower on May 15, 1875, he found the ice piled against it to a height of thirty feet, or seven feet above the doorway, and had to cut his way through this iceberg in order to effect an entrance to the tower. The cost of this fine structure, including the steamer and apparatus, was \$375,000.

*Stannard Rock Light.*—In 1877 the lighthouse board began the construction of a lighthouse on Stannard rock, similar to the one on Spectacle reef. Stannard's rock is in Lake Superior, 23 miles southeast of Manitou island lighthouse. Here the rock rises from two and one-half to three feet above the surface of the water, and is 15 or 20 feet in diameter. For many years its exact locality was known only to a few of the navigators of the lakes, and it was the most dreaded obstacle, the existence of which was known to them. From 1866 down to the erection of this lighthouse they were in constant dread of running on to it in the night or in foggy weather. In 1867 Congress made an appropriation of \$10,000 for the erection of a day beacon upon the rock, and in 1877 an appropriation of \$50,000, with which to begin the work of erecting the lighthouse. In 1882 the lighthouse was completed, and the light shone out over the wide expanse of waters for the first time on July 4, 1882.

#### NUMBER OF LIGHT STATIONS.

Following are the numbers of light stations and other aids to navigation in the three Lake districts:

*Ninth District:* Lighthouses and beacon lights, 96; light ships in position, 4; fog signals operated by steam, 23; fog signals operated by clock work, 7; buoys in position, 93.

*Tenth District:* Lighthouses and beacon lights, 72; lightships in position, 4; fog signals operated by steam, 6; fog signals operated by clock work, 3; buoys in position, 146.

*Eleventh District:* Lighthouses and beacon lights, including 18 post lights, 165; lightships in position, 3; day or unlighted

beacons, 1; fog signals operated by steam, 24; fog signals operated by clock work, 4; bell buoys in position, 2; other buoys in position, 322.

#### LIST OF LIGHTHOUSES.

Following is a list of the lighthouses in the *Ninth District*, with date of establishment:

Old Mackinac point, '90, flash red light.  
 McGulpin point, '69, fixed white light.  
 St. Helena, '73, fixed red light.  
 Simmon's reef light vessel, No. 55, '91, fixed red light; 6-in. whistle.  
 White shoal light vessel, No. 56, '91, fixed white light; with 6-in. steam whistle.  
 Gray's reef light vessel, No. 57, '91, fixed white light on one mast, red on other, with 6-in. st. whistle.  
 Waugoschance, '51, fixed white light varied by white flash, 10-in. steam whistle.  
 Skillagalee, '51, fixed w. lt., 10-in. steam whistle.  
 Beaver island harbor, '56, re-built '70, fixed r. light.  
 Beaver island, '51, re-built '58, fixed white light varied by white flash.  
 Little Traverse, '84, fixed red light.  
 Charlevoix pierhead, '85, fixed red light.  
 South Fox island, '67, fx'd r. lt. varied by r. flash.  
 Grand Traverse, '52, re-built '58, fixed white light.  
 Mission point, '70, fixed white light.  
 South Manitou, '40, re-built '72, fixed white light, 10-in. whistle.  
 Point Betsey, '58, flashing w. lt., 10-in. whistle.  
 Frankfort pierhead, '73, fixed red light.  
 Portage lake pierhead (front), '91, fixed red light.  
 Portage lake pierhead, '91, fixed red light.  
 Manistee pierhead, '94, fixed r. lt., 10-in. whistle.  
 Manistee, '70, re-built '73, fixed white light varied by red flash.  
 Grande Pointe au Sable, '67, fixed white light.  
 Ludington north pierhead, '90, fixed red light.  
 Ludington pierhead (front), '90, fixed red light.  
 Ludington pierhead, '70, re-built '77, fixed red light, 10-in. whistle.  
 Pentwater pierhead (front), '90, fixed red light.  
 Pentwater pierhead, '73, fixed red light.  
 Petite Pointe au Sable, '74, fixed white light varied by white flash.  
 White river pierhead, '72, fixed red light.  
 White river, '75, fx'd w. lt. varied by a r. flash.  
 Muskegon pierhead, '71, fixed red light.  
 Muskegon pierhead (front), '90, re-built '94, fixed red light.  
 Muskegon, '52, re-built '70, fixed white light.  
 Muskegon lake beacon, '95, re-built '96, fx'd r. lt.  
 Grand Haven pierhead, '71, fixed white light.  
 Grand Haven, '39, re-built '55, fixed white light.  
 Holland pierhead (Black lake, front), '90, fx'd r. lt.  
 Holland pierhead (Black lake), '70, fixed red light.  
 Kalamazoo pierhead, '94, fixed red light.  
 Kalamazoo, '39, re-built '59, fixed white light.  
 South Haven pierhead, '72, fixed red light.  
 St. Joseph, '32, re-built '59, fixed white light.  
 St. Joseph pierhead, '46, re-built '85, fixed r. light.  
 St. Joseph pierhead (front), '90, re-built '94, fx'd r. lt.  
 Michigan City, '37, re-built '58, fixed white light.  
 Calumet pierhead (South Chicago), '73, re-built '76, fixed red light.

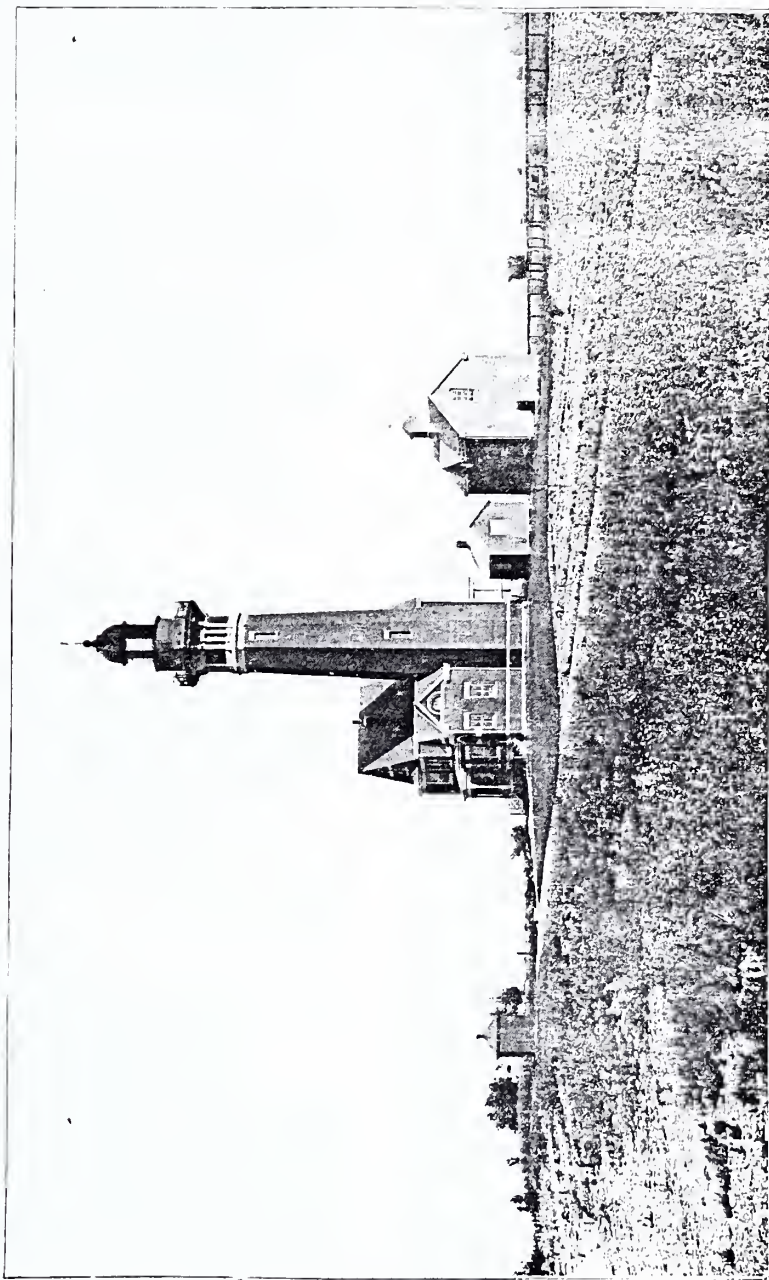
Chicago breakwater (south), '76, fixed red light.  
 Chicago breakwater (north), '76, fixed white light.  
 Chicago pierhead (front), '91, fixed red light.  
 Chicago pierhead, '69, fixed white light.  
 Chicago harbor, '93, flashing alternately r. and w.  
 Chicago outer breakwater (n. w. end), '90, re-built '92, fixed white light.  
 Grosse point, '73, fixed white light varied by red flash, 10-in. whistle.  
 Waukegan, '40, re-built '60, fixed white light.  
 Kenosha (Southport), '48, re-built '66, fixed white light, varied by white flash.  
 Kenosha pierhead (front), '94, fixed red light.  
 Kenosha pierhead (rear), '56 rebuilt '83, fxd r. lt.  
 Racine pierhead, '72, re-built '96, fixed red light.  
 Racine (Root river), '39, rebuilt '86, fxd. white lt.  
 Wind point, (Racine point) '80, fixed red light.  
 Milwaukee pierhead, '72, fixed red light, 10-inch whistle.  
 Milwaukee, '38, re-built '88, fxd. w. light varied by w. flash.  
 Port Washington pierhead, '89, fixed red light.  
 Port Washington, '50, re-built '60, fxd. w. light.  
 Sheboygan pierhead, '73, rebuilt '80, fxd r. lt., 10-inch whistle.  
 Sheboygan, '39, re-built '60, fixed white light.  
 Manitowoc breakwater, '95, fxd. r. lt., 10-in. whis.  
 Manitowoc pierhead, '40, re-built '92, fxd. r. lt.  
 Two Rivers pierhead, '86, fixed red light.  
 Two Rivers point, '53, re-built '94, fxd. w. lt. varied by w. flash.  
 Kewaunee pierhead (front), '91, re-built '95, fixed red light.  
 Kewaunee pierhead (rear), '89, fxd. r. lt., 10-in. whistle.  
 Ahnapee pierhead (rear), '93, fixed red light.  
 Ahnapee pierhead (front), '93, fixed red light.  
 Sturgeon bay canal pierhead, '82, fxd. r. lt., 10-in. whistle.  
 Sturgeon Bay canal, light to be established in the near future.  
 Sturgeon Bay canal (s. e. entrance, No. 1), '96, fixed white light.  
 Sturgeon Bay canal (n. w. entrance, No. 2), '96, fixed white light.  
 Sturgeon Bay canal (n. w. entrance, No. 3), '96, fixed white light.  
 Bailey harbor (front), '70, fixed white light.  
 Bailey harbor (rear), '53, re-built '70, fxd. w. lt.  
 Cana island, '70, fixed white light.  
 Porte Des Morts (Pilot island), '50, re-built '58, fixed white light varied by white flashes.  
 Plum island (front), to be established.  
 Plum island (rear), to be established.  
 Pottawottanie, '74, fixed white light.  
 Poverty island, '74, flashing r. lt., 10-in. whistle.  
 Seul Choix Pointe, '92, re-built '95, fxd. w. light.  
 Squaw island, '92, fxd. r. lt. varied by red flash.  
 Point Peninsula, '65, fixed white light.  
 Eleven Footshoal light vessel No. 60, '93, fxd. w. lt., 6-in. steam whistle.  
 Escanaba, '68, fixed red light.  
 Squaw point, to be established.  
 Cedar river, '89, fixed white light.  
 Cedar river (front), '91, fixed red light.  
 Cedar river (rear), '91, fixed red light.  
 Eagle bluff, '68, fixed white light.  
 Chambers island, '68, fxd. w. lt. varied by w. flash.  
 Menominee pierhead, '77, fixed red light.  
 Green island, '63, fixed white light.  
 Sherwood point, '83, fixed w. lt. varied by r. flash.

Dunlap reef (front), '81, fixed white light.  
 Dunlap reef (rear), '81, fixed white light.  
 Tail point, '48, re-built '59, fixed white light.  
 Grassy island (lower and upper), '72, fxd. w. lts.

Following is a list of the lighthouses in the *Tenth District*, with date of establishment:

Erie, '19, re-built '67, fixed white light.  
 Presqu' ile Pierhead, '19, rebuilt '58, fix. r. light.  
 Galloup island, '20, re-built '67, fixed white light.  
 Marblehead, '21, fixed white light.  
 Oswego, '22, re-built '69, fixed white light.  
 Genesee, '22, re-built '84, fixed red light.  
 Fort Niagara, '23, re-built '72, fixed white light.  
 Fairport, '25, re-built '71, fixed white light.  
 Dunkirk, '27, re-built '76, fixed white light.  
 Sacket's Harbor, '31, re-built '71, fix. white light.  
 Cleveland, West Pier, '31, re-built '75, fix. w. light.  
 Turtle island, '31, re-built '67, fixed white light.  
 Port Clinton, '33, re-built '96, fixed red light.  
 Ogdensburg, '34, re-built '71, fixed white light.  
 Ashtabula (front), '34, re-built '76, fixed white light varied by white flashes.  
 Conneaut, '35, re-built '75, fixed white light.  
 Fairport pierhead, '35, re-built '75, fix. w. light.  
 Huron, '35, re-built '57, fix. white light.  
 Black river, '36, re-built '75, fixed white light.  
 Big Sodus, '37, re-built '71, fixed w. light varied by white flash.  
 Dunkirk pierhead, '37, re-built '96, fixed red light.  
 Stony Point, '38, re-built '70, fixed white light varied by white flash.  
 Cedar Point, '39, re-built '62, fixed white light.  
 Vermilion, '47, re-built '77, fixed red light.  
 Cross-Over island, '48, re-built '82, fixed w. light.  
 Sunken rock, '48, re-built '82, fixed white light.  
 Rock island, '48, re-built '82, fixed white light.  
 Monroe, '49, re-built '84, fixed red light.  
 Mamajuda, '49, re-built '66, fixed red light.  
 Grassy island, '49, re-built '81, fixed white light varied by white flash.  
 West Sister island, '48, fixed white light.  
 Cedar Point, '53, re-built '67, fixed red light.  
 Green island, '54, re-built '65, fixed white light varied by white flash.  
 Tibbett's point, '54, fixed white light.  
 Horseshoe reef, '56, fix. w. lt. varied by w. fl.  
 Erie range, No. 1, '56, re-built '96, fixed w. light.  
 Erie range, No. 2, '56, re-built '82, fixed w. light.  
 Big Sodus bay, '58, re-built '70, fixed w. light.  
 Big Sodus bay (inner light), '58, re-built '95, fixed red light.  
 Cleveland east pier, '69, re-built '75, fixed r. light.  
 Sister islands, '70, fixed white light.  
 Oswego breakwater, '72, re-built '77, fxd. r. light.  
 Oak Orchard, '71, fixed white light.  
 Fair Haven, '72, fixed white light.  
 Buffalo breakwater, '72, fixed red light; 10-in. steam whistle.  
 Olcott, '73, fixed white light.  
 Presqu' ile, '73, flashing red and white alternately.  
 Thirty-Mile point, '76, flashing light.  
 Fair Haven range light, '84, fixed white light.  
 Maumee bay (front), '84, fixed white light.  
 Maumee bay (east), '84, fixed white light.  
 Maumee bay (south), '84, fixed white light.  
 Detroit river (Bar Point), '85, fxd. w. light varied by w. flash.





LAKE ONTARIO LIGHTHOUSE - BRADDOCK'S POINT



Cleveland west breadwater, '85, flashing red and white alternately; 10-in. steam whistle.

Niagara river (front), '85, re-built '94, fxd. w. lt.  
Niagara river (rear), '85, re-built '90, fix'd w. light.  
Charlotte harbor, '89, light red, white and red.  
Grosse isle (front), '91, fixed white light.  
Grosse isle (rear), '91, fixed white light.  
Limekiln Crossing light vessel (south), No. 64, '93, fixed white light.  
Limekiln Crossing light vessel (north), No. 65, '93, fixed white light.

Ballard reef light vessel, No. 63, '93, fix'd red light.  
Ashtabula pierhead (rear), '93, fixed red light.  
Fairport pierhead (rear), '93, fix'd r., w. and r. lights.  
Black river pierhead (rear), '93, f. r., w. and r. l'ts.  
Bar Point light vessel, No. 59, '93, fixed white light; 6-inch steam whistle.

Grosse isle (front), '94, fixed white light.  
Grosse isle (rear), '94, fixed white light.  
Mamajuda (front), '94, fixed red light.  
Ecorse (Grassy island, front), '95, fixed red light.  
Ecorse (Grassy island, rear), '95, fixed red light.  
Erie harbor Gas buoy, No. 8, '95, fixed white light.  
Manhattan (rear), '95, fixed red light.  
Sandusky bay (front), '96, fixed white light.  
Sandusky bay (rear), '96, fixed white light.  
Grassy island (front), '96, fixed white light.

Following is a list of the lighthouses in the *Eleventh District*:

Belle isle, '82, fixed red light.  
Windmill point (front), '91, fixed red light.  
Windmill point (rear), '91, fixed red light.  
Windmill point, '91, fixed white light with red flash.  
Grosse Point beacon, discontinued.  
Grosse point light vessel, '87, fixed white light.  
St. Clair flats (front), '59, re-built '75, fix'd w. light.  
St. Clair flats (rear), '59, fixed white light.  
St. Clair Flats canal (lower), '71, fixed red light.  
St. Clair Flats canal (upper), '71, fixed red light.  
On Lower reach, s. e. bend, Herson isl. and Russell isl., are 12 lts., forming ranges, all estab. in '89.

At Fort Gratiot is a range established in '91.  
Port Sanilac, '86, fixed red light.  
At Harbor of Refuge, east entrance, two lights, and at north entrance Sand Beach, two lights.  
Point Aux Barques, '47, re-built '57, flashing white.  
Port Austin reef, '78, fixd. white varied with flashes; 10-in. whistle.

At mouth of Saginaw river are two lights forming ranges, fixed red, estab. '76.

Charity island, '57, fixed white light.  
Tanas, '53, re-built '76, f. w. l., varied by r. flashes.  
Au Sable pierhead, '73, fixed red light.  
Sturgeon point, '70, fixed white light.  
Alpena, '77, re-built '88, fixed red light.  
Thunder Bay island, '32, flashing white.  
Presque Isle harbor, '70, two f. w. l. forming range.  
Presque Isle, '40, re-built '71, f. w. l., 10-in. whis.  
Forty-Mile point, to be established.  
Spectacle reef, '74, flashing r. and w. alternately.  
Detour, '48, re-built '61, f. w. l., 10-in. whistle.  
Round island, 1896, fixed white light varied by red flash, 10-in. whistle.

Bois Blanc, 1829, re-built 1867, fixed white light.  
Poe Reef light vessel, No. 62, '93, fxd. w. lt., 10-in. whistle.

Cheboygan, '52, re-blt. 59, fxd. w. lt. varied by w. flash, 10-in whistle.

Cheboygan crib, '84, fixed red light.  
Cheboygan river (front), 1880, fixed red light.

Cheboygan river (rear), 1880, fixed red light.

Frying Pan island, 1882, fixed red light.

Pipe island, 1888, fixed red light.

Sweets point, 1892, fixed white light.

Round island, '92, fxd. w. lt. with fxd. red sector.

Pilot island, '94, re-blt. '95, two fixed white lights forming range.

Winter point, '92, re-built '94, two fixed white lts. forming range.

Encampment crib, '92, fixed red light.

Dark Hole, '92, re-built '95, two fxd w. lts., forming range.

Point of Woods, '92, re-blt. '95, two fxd. r. lts. forming range.

Hen and Chickens, '92, two fxd. r. lts. form. rng.

Harwood point, '92, two fxd. w. lts. forming range.

East Neebish, '92, two fxd. r. lts. forming range.

Indian point, '92, re-blt. '95, two fxd. w. lts. forming range.

Duck island, '92, two fxd. r. lts. forming range.

Lower Lake George, '92, re-blt. '95, fxd. w. lt.

Middle Lake George, '92, fixed red light.

Upper Lake George, '92, fixed red light.

Church point, '92, re-built '96, fixed white light.

Churchville point, '94, fixed white light.

Manhattan shoal, '92, fxd. w. lt. bet. two r. sectors.

Catholic mission, '92, two fxd. w. lts. forming range.

Payment, '92, two fxd. r. lts. forming range.

Palmer's point, '92, fxd. w. lt. bet. two red sectors.

Farmers ridges, '92, two fxd. r. lts. forming range.

Partridge point, and Topsail island, '92, three fixed red lights forming range.

Bayfield rock, '92, two fxd. w. lts. forming range.

Sault, '92, two fixed red lights forming range.

St. Mary's river, Hay Lake channel, Middle Neebish cut, '95, eight lights, two forming range.

Hay lake channel Junction No. 8, '95, fxd. r. lt.

Lower Hay lake cut, '95, six lts., two forming rng.

Hay Lake channel, Nine Mile Point, '95, fxd. r. lt.

Middle Hay lake, '95, two fxd. w. lts. forming rng.

Frechette point, '95, two fxd. w. lts. forming range.

Six Mile point, '95, two fxd. w. lts. forming a range.

Little Rapid cut, '95, five lts. forming a range.

St. Mary's Falls canal (north pier), '82, fixed white light.

St. Mary's Falls canal (south pier), fixed red light.

St. Mary's Falls canal (lower range), two fxd. r. lts.

St. Mary's Falls canal (up. range), '87, two fxd. w. lts.

Point Iroquois, '55, re-blt. '71, flashing white.

Whitenish Point, '49, re-blt. '61, flashing white.

Grand Marais harbor of refuge, '95, fxd. w. lt., one yet to be established form a range.

Big Sable, '74, fixed white light.

Grand Island, '56, re-blt. '67, fxd. w. lt. varied by white flash.

Grand Island harbor, '68, fixed white light.

Grand Island harbor, '68, two fixed white lights forming a range.

Marquette, '53, re-blt. '66, fixed white light.

Marquette breakwater, '75, re-built '90, fxd. r. lt.

Granite island, '69, fixed w. lt. varied by r. flash.

Big Bay point, to be established.

Huron island, '68, fxd. w. light, 10-in. whistle.

Stannard rock, '82, flashing white light.

Sand point, '78, fixed red light.

Portage river, '56, re-built '70, fixed white light varied by red flash.

Portage (front), '68, fixed white light.

Portage (rear), '68, fixed white light.

Portage river, south light, '94, fixed white light.

Portage river, north light, '94, fixed white light.



Portage Lake ship canals (front), '94, fxd. w. lt.  
 Portage Lake ship canals (rear), '94, fxd. r. lt.  
 Mendota, '70, re-built '95, fxd. w. lt. varied by w. fl.  
 Manitou, '50, re-built '61, fxd. w. lt. varied by w. fl.  
 Gull rock, '67, fixed red light.  
 Copper harbor, '49, re-built '67, fixed white light.  
 Copper harbor (rear), '65, re-built '69, fxd. w. lt.  
 Eagle harbor, '51, re-built '71, fixed white light  
 varied by white flash.  
 Eagle harbor (front), '77, fixed white light.  
 Eagle harbor (rear), '77, fixed white light.  
 Eagle river, '58, fixed white light.  
 Portage Lake ship canal, '74, fixed white light.  
 Portage Lake ship canal pierhead, '79, re-built  
 '95, fixed red light.  
 Fourteen-Mile point, '94, fxd. w. lt. varied by r. fl.  
 Ontonagon, '52, re-built '66, fixed white light.  
 Ontonagon pierhead, '75, re-built '93, fxd. r. lt.  
 Outer island, '74, flashing white light.  
 Michigan island, '57, fixed white light.  
 La Pointe, '58, fixed red light.  
 Chequamegon point, to be established.  
 Raspberry island, '62, fxd. w. lt. varied by w. fl.  
 Devils island, '91, fixed red light.  
 Sand island, '81, fixed white light.  
 Superior pierhead, '85, re-built '93, fixed w. light.  
 Superior bay entrance (front), '93, fixed w. light.  
 Superior bay entrance (rear), '93, fixed w. light.  
 Superior bay (front), '93, fixed white light.  
 Superior bay (rear), '93, fixed white light.  
 Quebec channel post light, '93, fixed red light.  
 Superior bay channel (lower), post light, '93, re-  
 built '95, fixed white light.  
 Superior bay channel (lower middle) post light,  
 '93, fixed white light.  
 Superior bay channel (upper middle) post light,  
 '93, fixed white light.  
 Superior bay channel (upper) post light, fxd. w. lt.  
 Connors point (front) post light, '93, fxd. w. lt.  
 Connors point and Rice point post light (rear for  
 both), '93, fixed red light.  
 Rice point (front) post light, '93, fixed white light.  
 Ohio Central coal dock post light, '93, re-built '96,  
 fixed red light.  
 North channel (front) post light, '93, fxd. w. lt.  
 North channel (rear) post light, '93, fxd. w. lt.  
 North channel (front) post light, '93, re-built '95,  
 fixed white light.  
 North channel and South channel post light (rear  
 for both), '93, fixed white light.  
 South channel (front) post light, '93, fxd. w. lt.  
 Duluth (front), '74, fixed red light.  
 Duluth (rear), '80, light flashing red.  
 Two Harbors, '92, fixed red light.  
 Two Harbor breakwater, '95, fixed white light.  
 Grand Marias, '85, fixed white light.  
 Isle Royale (Menagerie island), '75, fxd. w. lt.  
 Passage island, '82, fixed red light.

A few additions and changes are being made to these aids to navigate each year. On the Great Lakes a multiplicity of lights is necessary to their safe navigation, for the reason that there is but little sea room, in case of a storm, there are numerous islands and straits in and connected with them, and the compass cannot be relied upon as it can upon the ocean. In many places its

variations are considerable, while in all places its variation is constantly changing, and the changes it undergoes depend not only upon the regular law of changes, which may be quickly learned, but also upon the proximity of masses of ore, particularly on Lake Superior, on which lake the compass varies according to the quantity of ore in the vicinity of which it may be, but also according to the distance from the ore the vessel may be, which is constantly changing when the vessel is in motion, the only time when the compass is of use. So that a thorough lighting of the shores of the lakes, of their straits, rivers, islands and reefs, is of vital necessity to their commerce. Storms are of frequent occurrence at certain seasons of the year, and fogs prevail to such an extent as to greatly endanger the lives and property that may be on board of vessels. Then, too, the depth of water is so nearly uniform that a vessel may, while in several fathoms of water, suddenly and without the least warning, encounter steep and rocky cliffs, and in other places the bottom of the lake may be so irregular that the sounding line is entirely useless. Every appliance, therefore, and aid to navigation that has been devised is not only a necessity, but is also an economy, for the unnecessary loss of a modern freighter, to say nothing of one of the passenger boats, would be as expensive as the establishment of many lights, sirens, steam whistles and whistling buoys.

#### CANADIAN LIGHTHOUSE SERVICE.

The lighthouse service of the Province of Ontario, Canada, in 1897, included 184 light stations, 235 lights, 177 keepers, 3 light ships, 2 fog whistles, 11 fog horns, 3 fog bells, 5 bell-buoys and 2 gas buoys. Most of the lights in the Province are located on the Great Lakes. The progress that has been made in Canada in lighthouse improvement is shown by the fact that in 1868 the number of lights in the entire Dominion was 198; in 1897 it had increased to 635. During the same period the number of lighthouses in Canada increased from 227 to 783. Mention of individual Canadian lighthouses on the Great Lakes is made in the chapter on Harbors.

## CHAPTER XXII.

### LIFE SAVING SERVICE.

FIRST LIFEBOAT STATION IN THE UNITED STATES—CONGRESS SLOW TO ACT—FAVORED BY APPROPRIATIONS—IMPROVEMENTS IN THE SERVICE—STATIONS IN THE THREE LAKE DISTRICTS—INSTANCES OF BRAVE RESCUES—A ONE HUNDRED AND TEN MILE RUN—HOW CAPTAIN CLEMONS WON HIS MEDAL—STATISTICS OF SERVICE RENDERED THE MERCHANT MARINE—LIFE-SAVING SERVICE IN CANADA—INSTANCES OF BRAVE RESCUES—SONS OF ENGLAND NAVAL BRIGADE—THE "GRACE DARLING" LIFEBOAT AT TORONTO.

THE first movement in this country to afford organized assistance to those whose lives are in peril from shipwreck was made by the Massachusetts Humane Society, which was organized in 1786. It erected huts on the Massachusetts coast for the shelter of such sailors as should escape from the sea, its first hut for this purpose being erected on Lovell's island, near Boston, in 1807. Later it equipped these with boats and life-saving appliances.

The Massachusetts Humane Society established the first lifeboat station at Cohasset, and subsequently erected a considerable number of other boat stations and huts of refuge. The efforts of this society were necessarily limited by reliance upon volunteer crews, and by the conditions of extemporized service. An appropriation was made by Congress in 1847 of \$5,000 "for furnishing the lighthouses on the Atlantic coast with the means of rendering assistance to shipwrecked mariners;" which appropriation, for the next two years, lay in the treasury, but which in 1849 was permitted to be expended by this society. Besides this Massachusetts Humane Society there were three or four other similar societies along the Atlantic coast, all of them ephemeral in their nature, with the exception of the Life-saving Benevolent Association of New York.

In August, 1848, William A. Newell, of New Jersey, made a vigorous and victorious appeal in the United States House of Rep-

resentatives, the result being an appropriation of \$10,000, approved August 14, 1848, "for providing surf boats, rockets, carronades and other necessary apparatus for the better preservation of life and property from shipwreck on the coast of New Jersey lying between Sandy Hook and Little Egg Harbor," etc. In 1853-54 Congress appropriated \$42,500 for the uses of this service. With this money fourteen new stations were added to those already on the coast of New Jersey, eleven on the coast of Long Island, and twenty-three lifeboats were placed at points on Lake Michigan.

*Favored by Appropriations.*—Chaos, however, continued to reign until 1871, when Congress appropriated \$200,000 for the use of this service, and authorized the Secretary of the Treasury to employ crews of surfmen at such stations and for such periods as he might deem necessary. In February, 1871, Sumner I. Kimball took charge of the Revenue Marine service, and the life-saving stations became the subject of his consideration. The lamentable condition of life-saving affairs at once arrested his attention. The various stations were found in anything but a satisfactory condition, being in all stages of dilapidation and decay, some of the keepers being disabled by age and other infirmities, and many of them having no special fitness for the work entrusted to them. A vigorous campaign of reform was at once set in motion. Nearly all the stations were manned by

carefully selected surfmen without regard to political affiliations.

In 1872 the selection of the best available apparatus engrossed attention. In May of that year a commission met at Seabright, N. J., to examine and test various life-saving appliances, and reported in favor of a modification of the New Jersey cedar surf-boat, an *crouvette* mortar, for throwing life lines, the India rubber life-saving dress and the Coston night-signal. In March, 1873, a Bill was passed appropriating \$100,000 for new life-saving stations on different portions of the Atlantic coast, and calling for a report of points for others upon the sea and lake coasts.

Congress passed an Act in 1874, authorizing the classification of stations under three groups, designated respectively as complete life-saving stations, life-boat stations and houses of refuge, and establishing a number of new stations upon the Southern Pacific and Lake coasts. In 1874 a life raft was added to the apparatus at several of the stations. In 1876-77 four new districts were organized, three of them on the lake coasts. This period marks the beginning of the Lake Service as it now exists. The five lakes comprise three life-saving districts, the Ninth, Tenth and Eleventh—the Ninth being located upon the coasts of Ontario and Erie, and having at the present time 12 stations, including one at the Falls of the Ohio river, Louisville, Ky.; the Tenth on the coasts of Huron and Superior, having 16 stations; and the Eleventh on the coast of Lake Michigan, having 26 stations.

The pay of the keepers of the stations was raised from \$200 to \$400 per annum by the Act of 1870, and a similar relief was effected by settling the volunteer lifeboat service on the lakes upon a proper footing. Previously these men had never been paid for days spent in drill and exercise necessary to perfect them in the use of lifeboats and apparatus; nor were they compensated for their services at wrecks, no matter what the hardships and dangers might be, unless there was actual saving of life. The new Act gave the volunteers \$3 per day for each day spent in drill, and \$10 per man

for each occasion of wreck service. All keepers were created inspectors of customs, thus enabling them to protect revenue interests and the interests of owners in relation to stranded property. The Act created numerous new stations, ten of them being on the lakes.

The principal danger to navigation on the lakes is lack of sea room, which leads vessels to run for shelter in a storm and to seek entrance into artificial harbors, which they are liable to miss and to strike upon the piers at the entrance to them. They are also liable to meet sudden and violent gales, which raise the seas so high as to sweep anchored vessels fore and aft, often forcing crews into the rigging or causing the craft to founder. In such cases as these, if the vessel is beached the lifeboat capable of being let down into the water between the piers, at the inner edge of one of which the station is situated, can readily slip out to the relief of imperiled crews, and being very powerful and able to stand the shock of the rudest seas, and the keepers being very skillful, the boats can readily be taken out to vessels laboring in distress at long distances from the shore.

There is an inspector of life-saving stations for the entire service, who is stationed in New York, and in each of the twelve districts there is an assistant inspector. Each district is in charge of a superintendent, appointed after an examination, an inhabitant of the region for which he is appointed, and familiar with the coasts, with the action of the surf, with the use of the surfboats and other life-saving appliances. He is responsible for the condition and conduct of his district, makes requisitions upon the management for all repairs, outfits and supplies necessary therefor, pays the crews, keeps the accounts and conducts the correspondence. The compensation of the superintendents range from \$1,500 to \$1,800 per annum.

Each station has a keeper, the best that can be obtained from the athletic race of beachmen, a master of boat craft, and the art of surfing, and skilled in wreck operations. The keeper selects his own crew, who are, however, subject to the decision of



the examining board. He is by law an inspector of customs, having authority for the care of stranded property and against smuggling. He preserves inventories of all property belonging to his station, and journalizes daily the life at the station, sending weekly transcripts of his journal to the general superintendent for his information. He keeps the station and equipments in order, commands the crew, steers the boat to wrecks, conducts all the operations, and governs his station precincts.

At the present time the compensation of the keepers of stations is \$900 per annum, and the surfmen receive \$60 per month when enlisted for a term of active service exceeding eight and one-half months, and \$65 per month when enlisted for a term of eight and one-half months or less. Keepers of houses of refuge receive \$600 per annum, no crews being employed at such stations.

#### STATIONS IN THE THREE LAKE DISTRICTS.

*Ninth District.*—Following is a list of the Life-Saving stations in the Ninth district, embracing Lakes Ontario and Erie, with year of establishment:

Big Sandy, N. Y., north side mouth Big Sandy creek, Lake Ontario, 1876.  
 Salmon Creek, N. Y., east side mouth Salmon creek, Lake Ontario, 1876; destroyed by fire 1892, not rebuilt.  
 Oswego, N. Y., east side entrance Oswego harbor, Lake Ontario, 1876.  
 Fort Niagara, N. Y., east side entrance Niagara river, Lake Ontario, 1892  
 Charlotte, N. Y., east side entrance Charlotte harbor, Lake Ontario, 1876.  
 Buffalo, N. Y., south side entrance Buffalo harbor, Lake Erie, 1877.  
 Erie, formerly called Presque Isle, Pa., north side entrance Erie harbor, Lake Erie, 1876.  
 Ashtabula, Ohio, west side entrance Ashtabula harbor, Lake Erie, 1894.  
 Fairport, Ohio, west side entrance Fairport harbor, Lake Erie, 1876.  
 Cleveland, Ohio, west side entrance Cleveland harbor, Lake Erie, 1876.  
 Point Marblehead, Ohio, on Marblehead island, Lake Erie, 1876.

*Tenth District,* embracing Lakes Huron and Superior, there are the following Life-Saving stations, with year of establishment.

Sand Beach, Mich., inside Sand Beach harbor, Lake Huron, 1881.  
 Point aux Barques, Mich., near lighthouse, Lake Huron, 1876.

Grindstone City, Mich., two miles northwest of Grindstone City, Lake Huron, 1881.

Ottawa Point, Mich., near lighthouse, Lake Huron, 1876.

Sturgeon Point, Mich., near lighthouse, Lake Huron, 1876.

Thunder Bay Island, Mich., west side of island, Lake Huron, 1876.

Middle Island, Mich., north end Middle Island, Lake Huron, 1881.

Hammond's Bay (formerly Forty-Mile Point), Hammond's Bay, Lake Huron, 1876.

Bois Blanc, Mich., about midway east side of the island, Lake Huron, 1891.

Vermillion Point, Mich., ten miles west of Whitefish Point, Lake Superior, 1876.

Crisps, Mich., eighteen miles west of Whitefish Point, Lake Superior, 1876.

Two-Heart River, Mich., near mouth of Two-Heart river, Lake Superior, 1876.

Muskallonge Lake (formerly Sucker river), Mich., near mouth of Sucker river, Lake Superior, 1876.

Marquette, Mich., near lighthouse, Lake Superior, 1891.

Ship Canal, Mich., near mouth of Portage Lake and Lake Superior ship canal, 1884.

Duluth, Minn., on Minnesota point, Upper Duluth, 1895.

*Eleventh District,* embracing Lake Michigan, there are the following life-saving stations:

Beaver Island, Mich., near lighthouse, 1876.  
 North Manitou Island, Mich., near Pickard's wharf, 1876.

Point Betsey, Mich., near lighthouse, 1876.  
 Frankfort, Mich., on the south side of the entrance to the harbor, 1887.

Manistee, Mich., on the north side of the entrance to the harbor, 1879.

Grand Pointe au Sable, Mich.; one mile south of lighthouse, 1876.

Ludington, Mich., north side of entrance to harbor, 1879.

Pentwater, Mich., north side of entrance to harbor, 1887.

White River, Mich., north side of entrance to White Lake, 1887.

Muskegon, Mich., north side of entrance to harbor, 1879.

Grand Haven, Mich., north side of entrance to harbor, 1876.

Holland, Mich., in harbor on south side, 1886.

South Haven, Mich., north side of entrance to harbor, 1887.

St. Joseph, Mich., in harbor on north side, 1876.

Michigan City, Ind., on east side of entrance to harbor, 1889.

South Chicago, Ill., north side of entrance to Calumet Harbor, 1890.

Chicago, about seven miles south by east of the Chicago River lighthouse, 1893.

Old Chicago, in Chicago harbor, 1876.

Evanston, Ill., on Northwestern University Grounds, 1876.

Kenosha, Wis., in Kenosha harbor, on Washington island, 1879.

Racine, Wis., in the harbor, 1876.

Milwaukee, Wis., near entrance to harbor, on south side, 1876.

Sheboygan, Wis., side entrance to harbor, 1876.  
 Two Rivers, Wis., north side entrance to harbor, 1876.  
 Kewaunee, Wis., north side entrance to harbor, 1894.  
 Sturgeon Bay Canal, Wis., north side east entrance to canal, 1886.

#### INSTANCES OF BRAVE RESCUES.

The bravery and daring of individual members of the life-saving crews have long since become proverbial. When the lives of their fellow-men are in danger they forget the risk to their own lives in efforts to save the lives of others, and many are saved through this forgetfulness who would otherwise perish. A few instances will illustrate the nature of the duties performed and the great utility to mariners of the life-saving service.

On the 3d of September, 1879, about 10 o'clock at night, the steamer J. Bertschey was wrecked off Grindstone City, Lake Huron, seven miles from the nearest life-saving station, which was located at Pointe aux Barques. The wreck was not discovered by the citizens at Grindstone City until the next morning, when a mounted courier was dispatched to the life-saving station, which he reached a little past 7 o'clock. A pair of strong and spirited horses, which were at once procured, drew the boat wagon with the boat and crew to the scene, where 500 people of the vicinity were gathered in helpless inaction watching the wreck. The life-savers launched without delay, a volunteer crew in another boat setting out at the same time, but soon putting back, while the surfmen kept on. Against an ugly sea and heavy wind, but with strong arms and resolute hearts, they soon reached the disintegrating craft. Two surfmen were soon on the steamer's deck, and had lowered into the surfboat eleven women and a little boy. These were at once carried safely ashore. Three more trips were made, and within little more than an hour the entire ship's company was saved, 44 persons in all.

In the series of "Heroes of Peace" there is an article in the *Century* on "Heroes of the Life-Saving Service," by Gustave Kobbe. Mr. Kobbe says: District Superintendent Jerome G. Kiah, with headquarters at

Sand Beach, Mich., is one of the heroes of the life-saving service. He holds the gold medal, the highest award the United States Government can bestow for heroism in saving life. His name is associated with what was both one of the most daring attempts at rescue, and one of the greatest tragedies of the service—a tragedy which wiped out an entire crew with the exception of this sole survivor.

"Mr. Kiah was at the time keeper of the Point aux Barques life-saving station on Lake Huron. A vessel struck too far out to be reached with the shot and line. The peril of attempting a rescue with the surfboat was only too apparent; but Keeper Kiah mustered his men and made the launch. For a while their strength and skill enabled them to surmount or push through the tumultuous seas; but, once in the open lake beyond the shoals, where the storm was free to riot at will, the real danger began. It was a test beyond human powers. The keeper remembers that twice the boat capsized and was righted. After that he has a vague recollection of the boat capsizing and righting herself several times, and of the crew clinging to it until, one by one, the surfmen, perishing of cold, let go their hold and vanished beneath the waves. He has a dim remembrance of the boat, with himself clinging to it, grating over the shoal, and then being flung up on the shore.

"He was found by two men, standing, with one hand on the root of a fallen tree, steadying himself with a lath in the other, and swaying as if walking, but not stirring his feet—a dazed, tottering wreck of his former self, murmuring in an incoherent way: "Poor boys! poor boys! They are all gone—all gone!" Temporarily shattered in mind and body, he was obliged to resign from the service. He was long in recovering, but finally it was possible practically to reward his bravery with the appointment to his present position."

The difficulties which frequently confront the life-saving crews on the lakes are illustrated by the circumstances attending the wreck of the schooner J. H. Hartzell near Frankfort, Lake Michigan, October 16, 1880.

The vessel anchored off Frankfort at 3 o'clock in the morning, the captain deciding to wait for daylight before attempting to enter the harbor; but at about 6 o'clock the wind suddenly shifted to the southwest and began to blow a whole gale, accompanied with fierce squalls of rain, snow and hail. The captain's belated effort to run into the harbor proved futile, and his vessel refused to mind her helm. Both anchors were dropped, but she was soon borne down by the gale to the middle bar, where she grounded, about 300 yards from shore and directly in front of a range of precipitous sand bluffs known as Big and Little Bald Hills. The seas began to crash over her, and two hours later all hands had found refuge in the rigging—six men and one woman cook.

A little boy in Frankfort observed the vessel plunging in the breakers, and informed several persons, who ran to the bluff. They were powerless to render aid, but a messenger had been dispatched for the life-saving crew, and to encourage the shipwrecked people, they built a fire, and lay large pieces of driftwood upon the face of the cliff, so as to form in huge black letters upon the white sand the comforting words "LIFEBOAT COMING."

The Point Betsey life-saving station was 10 miles distant. It received information of the disaster at eight o'clock, and a few minutes later was on its way to the scene. The way to reach the wreck was by a circuit through the woods, crossing the river in the rear of Frankfort, and thence on to the beach. The beach when reached was found to be submerged by a swashing flood that beat against the bluffs, and carried on its surface a mass of crashing logs, stumps and trees, making that route wholly impassable. Another way led through thick woods, along deep winding ravines, and over steep, soggy sand hills. The load which the horses and men had to draw weighed over 1,000 pounds. At about half past ten the life-savers reached the base of the ridge of high hills which separated them from the point where the Hartzell lay. The rugged way led up the precipitous hills amid dense woods so steep that the men and

horses had almost to climb and hoist the cart after them. A number of citizens joined the life-savers, and with their aid, making a total of 27 men, it was all that they could do to reach the summit, getting ahead only about 20 feet at a time.

New obstacles rose at every turn. They found themselves in a heavy, unbroken wood, filled with underbrush and fallen trees half buried in the sand. Axes and hand spikes came into play, while groups of men with bare hands tore away the underbrush and heaved at the prostrate trees. The bluff, finally reached, was nearly 300 feet high, composed of loamy sand, which was driven into the faces of the men at intervals, almost blinding their eyes, and away below them and far from the shore, which was lashed by the awful sea, lay the forlorn wreck, her hull submerged and her swinging masts reeling, while in and below the cross-trees were to be seen the storm-swept sailors with the one woman in their midst.

From the place where the life-savers stood, rescue was plainly impossible. Below them at the foot of the almost perpendicular bluff was the dashing surf with not an inch of standing room. Two hundred and fifty feet below, the keeper thought he could perceive a little shelf-like place where the apparatus might be worked. The lines were instantly attached to the apparatus cart, and the crowd begun to lower away, the surfmen plunging their heels into the soft sand and sliding down with it, some going head-foremost and all covered with sleet and sand and mud. Once on the little plateau, the gun was fired, and the rescue began.

About noonday the line was in possession of the sailors, and a little later the life-car was run out to the wreck. When night-fall was at hand, the entire crew were rescued, except the woman, who, it was asserted by the rescued men, had perished.

*A One Hundred and Ten Mile Run.*—One of the most remarkable instances of life-saving occurred November 18, 1886. On the morning of that day two vessels in distress were discovered off Marquette. The storm was one of great intensity. During the night it had overthrown the light-



house on the pier, and was still raging with relentless fury. There was no life-saving station at Marquette, and the people of the vicinity devoted the entire day to every effort to reach the mariners. Boats and steam tugs were tried, a mortar and life-line were invoked, but all without avail.

The nearest life-saving station was at ship canal *one hundred and ten miles* away. A telegram was sent. There was not a moment of hesitation at ship canal. A special train was ordered, and the crew and apparatus embarked in the midst of one of the heaviest storms of the year. It was a famous run. Before midnight the life-savers reached the scene of disaster, and after eight hours of effort, stung with cold and covered with ice, they safely landed the two crews, twenty-four persons.

Another instance of the loss of life by members of a life-saving crew occurred November 29, 1886. The schooner A. J. Dewey had started the previous night from Pierport to Manistee in tow of a tug; but when within three miles of that harbor the towing hawser parted, and the tug getting the line into her propeller wheel was blown ashore, the crew being rescued by the life-saving crew of Manistee station. The schooner hoisted some head sails and ran before the gale, a strong north wind. At daybreak the mate attempted to set a signal for a tug; but when the signal was part way up the halliards became fouled in the truck, suspending the ensign at half-mast, the indication of distress, and notwithstanding the exertions of the crew it was nearly half an hour before the ropes could be sufficiently cleared of snow and ice to admit of the signal being hoisted to the masthead.

While the signal was involuntarily at half-mast the life-saving crew above mentioned discovered it, and thinking the vessel to be in distress lost no time in manning the surf-boat and starting out on their errand of deliverance. One of the surfmen, glancing over his shoulder, saw that the ensign had risen to the masthead, and said to the man nearest to him: "She is all right; the flag is way up." But this remark passed unheeded, and the boat kept on her course; A heavy incoming sea broke directly across

the bow of the boat, causing her to ship a large amount of water. Before she could be brought head on again another comber struck her amidships, throwing the keeper to the bottom of the boat, which capsized. Three of the crew lost their lives.

Keeper William Clark, of the Erie station, was lost June 4, 1891. While attempting with his crew to render assistance to the stranded steamer, Badger State, he was drowned in an attempt to reach land, his boat having been upset.

In the afternoon of May 17, 1893, two young men were drowned in the outer harbor of Cleveland, Ohio, and also four members of the life-saving crew at that place. The two young men were carelessly making their way down the river, then swollen and dangerous. At length, realizing their danger, they made frantic efforts to stem the torrent. One of the oars broke, and the frail craft went down the stream with the speed of a race horse. As they approached the life-saving station Surfman Servas hurled a life buoy to them, and Keeper Distel ordered his crew to put on their life-belts and man the lifeboat. This boat was gotten into the water quickly, but the skiff was nowhere to be seen. As a large number of people on the east pier kept pointing to the lake, the-keeper pulled outward until the lifeboat was half way between the pier and the breakwater. The crew were about to pull under the lee of the west breakwater for shelter, when the keeper saw a monstrous wave approaching the boat. In order to meet and pass it before it should comb he ordered his men to pull hard; but just at the critical moment the stroke oar on the port side snapped in two, and the comber smashed over the starboard bow, turning the boat upside down and hurling its occupants into the surf with great violence. Four perished.

*How Captain Clemons Won His Medal.*—Capt. Lucian M. Clemons, who has just retired as keeper of the life-saving station at this point, was the first man to receive a gold medal from the United States Government for the rescue of shipwrecked persons.

The circumstances leading to this substantial recognition of heroism by Uncle

Sam were as follows: The schooner *Consuelo*, a stanch craft of 450 tons burden, which had made a voyage across the Atlantic to Liverpool in the early sixties, and outridden fierce tempests on that stormy ocean, was caught in a fierce gale about twelve miles from Sandusky, and three miles north of the rocky shores of Marblehead. She was loaded with block stone. Between Kelley's island and Marblehead the water is nowhere deeper than thirty feet, and consequently, in nautical parlance, "a nasty sea" comes up very quickly in a gale.

The *Consuelo's* cargo had been hastily and improperly stowed, and either through carelessness or to facilitate unloading, rollers had been left under some of the massive blocks of stone in the hold. The vessel pitched and tossed so violently that these blocks and the whole cargo shifted, and suddenly, almost without warning, the boat gave a lurch and foundered. The captain, three men and the cook were lost, but Mate Donahue and one of the sailors succeeded in clinging to the spars, where they were sighted from Marblehead by Captain Clemons and his brothers, A. J. and Hubbard, who went to their rescue. They started out in an open rowboat and battled heroically with the raging elements. Time and time again it seemed as if their frail craft must certainly swamp, but they kept steadily on, and, just as they were about exhausted, reached the two sailors, who were clinging to the wreckage, and picked them up. But the danger was by no means past, as the strength of the two men was entirely spent, and the storm was increasing in its merciless fury. It is likely that none of the occupants of that little boat would ever have reached shore alive had not the tug *Winslow* come to their assistance and landed them safely on Kelley's island.

In due time the daring feat of the Clemons brothers was brought to the notice of the proper authorities at Washington, and after many necessary formalities had been complied with, Captain Clemons and each of his two brothers received from the Treasury Department the first gold medals ever awarded for such service. They were ac-

companied by letters of commendation. The medals are of handsome design and very heavy and valuable, each containing 800 worth of gold and \$50 worth of alloy. They are three inches in diameter, while those now given by the government for like services are but two inches in diameter, and correspondingly thinner and less valuable intrinsically.

On September 9, 1876, the life-saving station at Marblehead was established, and Captain Clemons was appointed its first keeper as a further recognition of his gallantry. This position he resigned in 1897, and now lives a life of retirement and ease within sound of the dashing billows he has so often braved. The Captain is advanced in years, but still hale and hearty and much more active than many younger men.

#### STATISTICS OF SERVICE RENDERED THE MERCHANT MARINE.

The following table has been compiled from the reports of the life-saving service in recent years. It shows the good work done for the lake marine.

YEAR	DISASTERS	LIVES IM-PERILED	LIVES SAVED	PROPERTY INVOLVED	PROPERTY SAVED	VESSELS LOST
1899	110	1,082	1,080	\$1,723,720	\$1,380,790	12
1898	187	1,508	1,496	1,796,715	1,325,150	11
1897	157	1,072	1,071	2,451,295	1,995,445	15
1896	138	902	900	1,393,150	1,296,325	7
1895	161	1,091	1,087	1,624,650	1,466,970	11
1894	186	865	865	2,013,920	1,748,195	12
1893	234	1,253	1,252	3,081,575	2,634,160	8
1892	213	1,320	1,313	2,928,930	2,665,115	9
1891	188	1,388	1,380	2,766,175	2,556,640	11
1890	205	1,121	1,109	2,961,350	2,694,490	5
1889	217	1,157	1,149	3,031,785	2,828,950	15
1888	228	1,752	1,744	3,577,335	3,283,950	26
1887	265	1,599	1,598	3,165,700	2,741,900	11
1886	332	2,189	2,179	4,442,432	3,646,522	11
1885	218	2,093	2,092	4,075,150	3,643,150	7
1884	276	1,530	1,525	2,394,830	2,257,750	7

#### LIFE-SAVING SERVICE IN CANADA.

Previous to 1882 the Government of the Dominion of Canada had done but little toward the establishment of a life-saving service; but during that year and the next considerable loss of life occurred both on the Atlantic coast and in Canadian waters on the Great Lakes, which caused a general feeling and conviction that some steps

should be taken with regard to providing means for saving the lives of persons wrecked in Canadian waters.

In 1882 the number of lives lost in these waters was 226; in 1883, it was 157; and in 1884, 160. Of the latter number 124 were lost at one time by the wreck of the steamship *Daniel Steinhilber* on the Atlantic coast, near Halifax. In November, 1882, the schooner *Henry Folger* was wrecked at Salmon Point, Lake Ontario, and eight persons drowned, all of whom, it was said, could have been saved had a lifeboat and crew been available. The Hon. A. W. McLelan, who was then the Minister of Marine and Fisheries, and William Smith, the then Deputy Minister of Marine and Fisheries, both took a very active part in the matter, and succeeded in organizing the nucleus of the present service under the authority of the government. Mr. Smith was most strenuous in his efforts, making use of his Departmental staff and officers to get the several stations established and put in readiness to render service when required.

The first station equipped was that at Cobourg, which was established November 7, 1882. Daniel Rooney was the coxswain, and had a crew of six men. His salary was \$75 per annum, and he was also paid \$1.50 for each drill, the drills taking place twice each month during the season of navigation. The crew were each paid \$1.50 for each drill. This station was and is equipped with a self-righting and self-bailing boat of the Dobbins pattern, which is 25 feet long over all, and eight feet beam. It cost \$575, and was made at Goderich, Ontario. Mr. Rooney has been the coxswain ever since the establishment of the station. He was paid, as a reward for saving the lives of two fishermen April 4, 1890, \$22.

The station at Toronto was next established, March 1, 1883, William Ward being the coxswain appointed, who has held his position ever since. However, previous to the establishment of this government station there had been a voluntary life-saving crew on the island.

The next station established was that at Wellington, Ont., in 1883, with Hugh Mc-

Cullough, coxswain. The station at Poplar Point, Prince Edward county, Ont., was next established with Leroy Spafford as coxswain. Port Rowan, Ont., was the next point at which a station was established, October 19, 1883, with J. W. McCall as coxswain.

During the year 1885 it was decided by the government to invite tenders for the supply of twelve lifeboats, of a similar description to the self-righting and self-bailing boats placed in 1883 at Poplar Point and Wellington. Six of these twelve boats were built at Goderich, by William Marlton, and six at Dartmouth, N. S., by John Williams, at a cost, including outfit, of \$575 each. These twelve boats, when completed, were located as follows: Two on Sable island; and one each at Devil's island, Duncan's cove, Yarmouth and Scatarie, and one each at Cobourg, Collingwood, Goderich, Port Stanley, Toronto and Pelee island, the latter six being in the Province of Ontario.

After this action the first station established was that at Port Stanley, Ont., June 25, 1885, with William Berry, coxswain. The station at Collingwood was established September 2, 1885, with P. Doherty as coxswain. The station at Goderich was established October 21, 1886, with William Babb as coxswain. The station at Pelee island was established in 1887, with S. Mahoney as coxswain. The station at Port Hope was established November 6, 1889, with C. R. Nixon as coxswain and a crew of six men.

#### INSTANCES OF BRAVE RESCUES.

The crews, of six men each, at these several stations have frequently done excellent service to mariners in distress. A few instances of their bravery are presented in this connection.

The crew of the lifeboat station at Port Rowan rendered assistance to the schooner *Erie Wave*, of Port Burwell, which was stranded on the shore of Lake Erie, a mile below Clear creek, Ont., September 30, 1889, and were rewarded by a present of \$21. Hugh McCullough, coxswain, and the crew of the life-saving station at Wellington, were presented with a purse of \$43



for services rendered in rescuing the crew of the wrecked schooner *Kate*, September 26, 1889. William Ward, coxswain, and the crew of the Toronto life-saving station, were presented with a purse of \$32 for rendering assistance to a wrecked vessel at Port Credit, November 27, 1889.

L. Spafford, coxswain, and the crew of the life-saving station at Poplar Point, were presented with a purse of \$108.50 for services rendered to the schooner *Juria*, October 27, 1889; to the schooner *Parthian*, November 22, 1886; to the schooner *Glenora*, November 19, 1887, and to the barge *Valencia*, May 28, 1890.

William Babb, coxswain, and the crew of the lifeboat at Goderich, Ont., received \$46.50 for attempting the rescue of the *Parisian*, April 9, 1890.

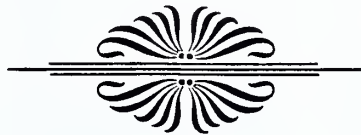
The total expense incurred by the Dominion Government on account of this service is about \$3,000 per year.

The Sons of England Society is a beneficiary order. Connected therewith is the *Sons of England Naval Brigade*, which was organized in 1889 for the purpose of patrolling Toronto bay and saving life when possible. For several years the brigade had a metallic boat, but in 1892 they had built

for them the lifeboat *Grace Darling*, one of the largest boats of the kind on the lakes. She is 35 feet long, 9 feet 2 inches wide and 3 feet 10 inches deep. This boat was christened and launched August 24, 1892, by Mrs. Kirkpatrick, wife of the Lieutenant-Governor, assisted by the Lieutenant-Governor, by the Bishop of Toronto, Alderman Lamb representing the Mayor of Toronto, and others. The number present on this occasion was estimated at from 3,000 to 5,000. The ceremony was under the supervision of Capt. George Tyler, of the lifeboat crew.

The first lookout on duty was W. G. Pritchett. The present boathouse was built in 1897; at the foot of the east approach to the York-street viaduct. It cost about \$950. The *Grace Darling* has two water-tight bulk heads, and air tanks around the sides, so that it is practically impossible to sink her. She is self-righting, but not self-bailing.

Besides these several rescues, this crew has been very useful in saving property that would otherwise have been lost. At the present time there are 48 men connected with the brigade, of whom 29 constitute the permanent crew of the lifeboat, the others being auxiliaries.



## CHAPTER XXIII.

### DEVELOPMENT OF LAKE VESSELS.

INDIAN CANOES—MANY INTERESTING DESCRIPTIONS BY EARLY VOYAGEURS AND OTHERS—THE BATEAU—EARLY SAIL VESSELS—EARLY STEAMBOATS—THE ONTARIO AND FRONTENAC BUILT ON LAKE ONTARIO IN 1816—THE FAMOUS WALK-IN-THE-WATER OF 1818—ADVENT OF THE PROPELLER—THE VANDALIA AND OTHER PROPELLERS—THE MODERN SIDE-WHEEL STEAMER—IRON AND STEEL VESSELS—DEVELOPMENT OF THE BARGE—THE WHALEBACKS—OTHER NEW TYPES OF VESSELS—CAR FERRIES—EARLY FERRY BOATS—A HORSE FERRY BOAT—THE OLD FERRY BOAT AT BLACK ROCK—FERRIES AT DETROIT—EVOLUTION OF THE LAKE CARRIER—CANADA'S MERCHANT MARINE—SHIP BUILDING—EARLY SHIP BUILDING OF CHICAGO—THE IRON SHIP BUILDING INDUSTRY—SHORT HISTORY OF LAKE DRY DOCKS—GROWTH OF TONNAGE.

Ships fear fire more than water.—*Italian Maxim.*

Vessels large may venture more,  
But little boats should keep near shore.

—*Poor Richard's Almanac.*

She walks the waters like a thing of life  
And seems to dare the elements to strife.

—*The Corsair.*

With clashing wheel and lifting keel,  
And smoking torch on high,  
When winds are loud and billows reel,  
She thunders foaming by;  
When seas are silent and serene,  
With even beam she glides,  
The sunshine glimmering through the green  
That skirts her gleaming sides.

—*The Steamboat.*

—the forest's life was in it,  
All its mystery and its magic,  
All the lightness of the birch tree,  
All the toughness of the cedar,  
All the larch's supple sinews;  
And it floated on the river  
Like a yellow leaf in autumn,  
Like a yellow water lily.

**I**N beautiful imagery Longfellow describes the birch canoe of Hiawatha. The Indian bark canoe is the earliest known form of lake vessel, and many of the pioneer navigators have written of its marvelous lightness and other qualities.

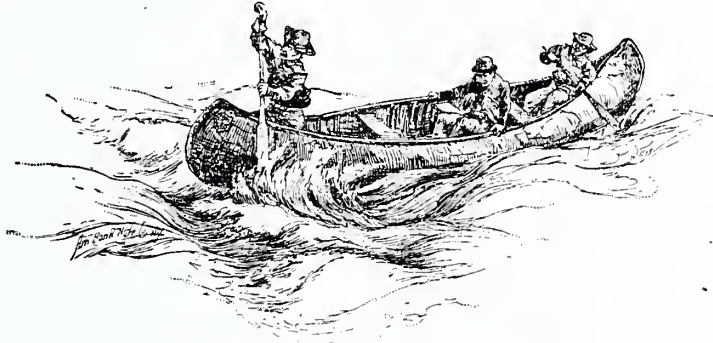
One writer, describing the bark canoes of the Iroquois Indians, says they were from twelve feet in length, with sufficient capacity to carry two men, to forty feet, with capacity for 30 men. Another writer speaks of a canoe capable of carrying 50 men. The standard was about two tons. Birch bark was preferred because it was not liable to warp, but some tribes were obliged to use elm and other barks.

Father Charlevoix, who traveled extensively over the lakes and their approaches, gives the following description of the birch canoe, which he says was then used by the French missionaries and by all the Indians he visited except the Iroquois:

"They lay the bark, which is very thick, on flat and very thin ribs made of cedar; these ribs are confined their whole length by small cross bars, which separate the seats of the canoe; two main pieces of the same wood, to which these little bars are sewed, strengthen the whole machine. Between the ribs and the bark they thrust little pieces of cedar, which are thinner still than the ribs, and which help to strengthen the canoe, the two ends of which rise by degrees and insensibly end in sharp points that turn inwards. These two ends are exactly alike; so that to change their course

and turn back the canoe men need only change their heads. He who is behind steers with his oar, working continually; and the greatest occupation of him who is forward is to take care that the canoe touches nothing to burst it. They sit or kneel on the bottom, and their oars are paddles of five or six feet long, commonly of maple; but when they go against a current that is pretty strong, they must use a pole and stand upright. One must have a good deal of practice to preserve a balance in this exercise, for nothing is lighter, and of consequence easier to overset, than these canoes, the greatest of which, with their loading, does not draw more than a half a foot of water. The bark of which these canoes are made, as well as the ribs and the bars, are sewed with the roots of fir, which are more pliable and dry much less than the ozier. All the seams are gummed (or pitched) within and without, but they must be viewed every day to see that the gum is not peeled off.

The largest canoes carry twelve men, two upon a seat, and 4,000 pounds weight. Of all the savages the most skillful of canoes are the Outaouais (Ottawas), and in general the Algonquin nations succeed herein better than the Hurons. Few French as yet can make them even tolerably; but to guide them, they are at least as safe as the savages of the country; and they practice this exercise from their childhood. All the canoes, even the smallest, carry a sail, and with a good wind can make twenty leagues a day. Without sails they must be good canoe men to make twelve leagues in a dead water." Father Charlevoix does not give the origin of using sail; this may have been suggested by the French.



SHOOTING THE RAPIDS IN ST. MARY'S RIVER.

Catlin, who visited the Indians of the Northwest before white settlements were common, has recorded this picturesque description: "The bark canoe of the Chipewas (whose main subsistence was fish) is perhaps the most beautiful and light model of all the water craft that ever were invented. They are generally made complete with the rind of one birch tree, and so ingeniously shaped and sewed together, with roots of the tamarack, which they call *wat-taps*, that they are water-tight and ride upon the water as light as a cork. They gracefully lean and dodge about, under the skillful balance of an Indian, or the ugliest squaw; but like everything wild, are timid and treacherous under the guidance of a white man; and if he be not an experienced equilibrist, he is sure to get two or three

times soused, in his first endeavors at familiar acquaintance with them." Henry, the English trader, on his return trip to Montreal from Michilimackinac in 1764, thus describes the

construction of birch canoes: "Next morning, at ten o'clock, we reached the shores of Lake Ontario. Here we were employed two days in making canoes, out of the bark of the elm-tree, in which we were to transport ourselves to Niagara. For this purpose, the Indians first cut down a tree; then stripped off the bark, in one entire sheet, of about eighteen feet in length, the incision being lengthwise. The canoe was now complete, as to its top, bottom and sides. Its ends were next closed, by sewing the bark together; and a few ribs and bars being introduced, the architecture was finished. In this manner, we made two canoes, of which one carried eight men, and the other nine."

The same trader gives in another part



of his travels the following description: "The canoes, which I had provided for my undertaking, were, as is usual, five fathom and a half in length, and four feet and a half in their extreme breadth, and formed of birch-tree bark, a quarter of an inch in thickness. The bark is lined with small splints of cedar-wood; and the vessel is further strengthened with ribs of the same wood, of which the two ends are fastened to the gunwales; several bars, rather than seats, are also laid across the canoe, from gunwale to gunwale. The small roots of the spruce tree afford *wat-tap*, with which the bark is sewed; and the gum of the pine-tree supplies the place of tar and oakum. Bark, some spare *wat-tap* and gum, are always carried in each canoe, for the repairs, which frequently become necessary.

"The canoes are worked, not with oars, but with paddles; and, occasionally with a sail. To each canoe there are eight men; and to every three or four canoes, which constitute a brigade, there is a guide or conductor. Skillful men, at double the wages of the rest, are placed in the head and stern. They engage to go from Montreal to Michilimackinac, and back to Montreal again; the middle men at one hundred and fifty livres, and the end men at three hundred livres, each. The guide has the command of his brigade, and is answerable for all pillage and loss; and, in return, every man's wages is answerable to him. This regulation was established under the French Government.

"The freight of a canoe, of the substance and dimensions of which I have detailed, consists in 60 pieces, or packages, of merchandise, of the weight of from 90 to 100 pounds each; and provisions to the amount of 1,000 weight. To this is to be added, the weight of eight men, and of eight bags, weighing forty pounds each, one of which every man is privileged to put on board. The whole weight must therefore exceed 8,000 pounds; or may perhaps be averaged at four tons."

In his work, "The Red and the White Man," George E. Ellis says: "The Indian canoe seems to need an Indian for its most facile use and its safest guidance. The

best position for the occupant was to be flat on his back, if he trusted to floating, or to rest still on bended knees, if he plied the single paddle with strokes on either side. All uneasy, restless motions, all jerks and sidelings, were at the risk of passenger, canoe and freight. Count Frontenac, when first, as Governor of Canada, for Louis XIV, he began his experience as a voyageur, with the natives, expressed in strong terms his disgust at the cramped and listless position to which he was confined in the birch canoe; and the Jesuit missionaries, the most patient and heroic of all Europeans, as they met every cross and hardship, were very slowly wonted to it. They gave us many piteous narrative touches of the constant risks and the need of steady eye and of a stiff uniformity of position in the buoyant but ticklish vehicle of transport. When needed, they had in it their own precious sacramental vessels, requiring an ever nervous watchfulness against disaster. Till the passengers had learned to adapt themselves to the exacting conditions, their timidity and anxiety furnished a constant source of ridicule and banter to their native pilots. The merriment was loud and unsympathizing, when the passenger tipped himself into the waters, still or foaming, unless at the time he swamped the canoe with a valuable cargo."

Gourley, in writing upon inland navigation, says: "From Lachine the canoes employed by the Northwest Company in the fur trade take their departure. Of all the numerous contributions for transporting heavy burdens by water these vessels are perhaps the most extraordinary; scarcely anything can be conceived so inadequate from the slightness of their construction to the purpose they are applied to, and to contend against the impetuous torrent of the many rapids that must be passed through in the course of a voyage. They seldom exceed thirty feet in length and six in breadth, diminishing to a sharp point at each end, without distinction of head or stern; the frame is composed of some small pieces of very light wood; it is then covered with the bark of the birch tree, cut into convenient slips, that are rarely more than an eighth of an inch in thickness; these are sewn to-

gether with threads made from the twisted fibers of the roots of a particular tree, and strengthened where necessary by narrow strips of the same material applied on the inside; the joints on the fragile planking are made watertight by being covered with a species of gum that adheres firmly and becomes perfectly hard. No iron work of any kind, not even nails are employed in building these slender vessels, which, when completed, weigh only about 500 weight each. On being prepared for the voyage they receive their lading, which, for convenience of carrying across the portages, is made up in packages of about three-fourths of a hundred weight each, and amounts altogether to five tons or a little more, including provisions and other necessities for the men, of whom about eight or ten are employed on each canoe; they usually set out in brigades, like the bateaux, and in the course of a summer upward of fifty of these vessels are thus dispatched."

In "Schoolcraft's Travels" occurs the following picturesque description: "We were struck with the difference, both as to the form and materials of construction, between the canoe by which the savages formerly navigated the Hudson, Connecticut and Delaware, and that which is at present employed by the northern tribes. The former, as still remaining among us, is merely a log which has been scooped out and is in every respect analogous, according to Mr. Pennant, to the monoxyla of the ancient Germans and Gauls, and to the pine canoe of the savages of Nootka Sound, except that the latter is supposed to exceed the ancient European canoe in the elegance of its form. The old Europeans, says Mr. Pennant, were content if they could but float. The northwest canoe is, on the contrary, constructed wholly of bark, cedar splints, the roots of the spruce, and the pitch of the yellow pine, productions which are common, from the frozen ocean, situated within the arctic circle, to the parallel of the forty-second degree of north latitude; and these articles are fabricated in a manner uniting such an astonishing degree of lightness, strength, and elegance and with such a perfect adaptation to the country,

and the difficulties of northern voyages, as to create a sentiment of mixed surprise and admiration.

"Those of the largest size, such as are commonly employed in the fur trade of the north, are thirty-five feet in length and six feet in width at the widest part, tapering gradually toward the bow and stern, which are brought to a wedge-like point and turned over from the extremities, toward the center, so as to resemble in some degree the head of a violin. They are constructed of the bark of the white birch tree, (*betula papyracea*), which is peeled from the tree in large sheets and bent over a slender frame of cedar ribs confined by gunwales, which are kept apart by slender bars of the same wood. Around these the bark is sewed by the slender and flexible roots of the young spruce tree, called 'wattap,' and also where the pieces of bark join, so that the gunwales resemble the rim of an Indian basket. The joinings are afterward luted and rendered water-tight by a coat of pine pitch, which, after it has been thickened by boiling, is used under the name of 'gum.' In the third cross-bar from the bow an aperture is cut for a mast so that a sail can be employed when the wind proves favorable. Seats for those who paddle are made by suspending a strip of board with cords from the gunwales in such a manner that they do not press against the sides of the canoe.

"The fur companies have lately introduced the use of oars in propelling the canoe, but the natives employ the cedar paddle, with a light and slender blade. In either case, they are steered with a larger paddle, having a long handle and a broad blade. A canoe of this size, when employed in the fur trade, is calculated to carry sixty packages of skins, weighing ninety pounds each, and provisions to the amount of one thousand pounds. This is exclusive of the weight of eight men, each of whom is allowed to put on board a bag or knapsack, of the weight of forty pounds. In addition to this every canoe has a quantity of bark, wattap, gum, a pan for heating the gum, an axe, and some smaller articles necessary for repairs.

"The aggregate weight of all this may be estimated at about four tons. Such a canoe, thus loaded, is paddled by eight men, at the rate of four miles per hour, in a perfect calm—is carried across portages by four men—is easily repaired at any time and at any place, and is altogether one of the most eligible modes of conveyance that can be employed upon the lakes, while in the interior of the Northwest, for river navigation, where there are many rapids and portages, nothing that has been contrived to float upon water, offers an adequate substitute. Every night the canoe is unloaded, and with the baggage carried ashore, and if, during the day, a storm should arise, such is the activity of the Canadian voyageurs, that ten minutes time is sufficient to effect a landing and secure both vessel and cargo.

"Recommended by these advantages, we felt an avidity to test them by experience; and after a long voyage in which we have had occasion to complain of the confined posture of sitting, and of the frequency of injuring the canoes by striking against hidden rocks and logs of wood, we have nevertheless returned with an unaltered opinion of their superior utility and adaptation for northern voyages. Such is the vessel in which Europeans, adopting the customs of the savages, first entered the great chain of American lakes, and in which they have successfully discovered the Mississippi, the Columbia, and the Arctic sea; and the coincidence is deserving of remark that it has been employed by every traveler of the region from the time of Father Marquette, the Jesuit, to the discoveries of Sir Alexander McKenzie. The order of traveling in this region is as follows: Father Marquette, LaSalle, Hennepin, LaHontau, Charlevoix, Henry, Carver, McKenzie."

*The Bateau.*—Soon after the advent of the French missionaries in the lake region the skiff or bateau began to displace the Indian canoe. The bateau was a light boat, long in proportion to its breadth and wider in the middle than at the ends. When military expeditions were to be sent up the lakes bateaux were usually constructed for that purpose, if the services of white

mechanics, or boat builders, could be procured. If recourse upon the Indians was the only resource, canoes were employed. The Indian preferred his canoe, but the white man had a predilection for his own build of water craft.

A traveler who made a trip up the St. Lawrence and lakes during the closing years of the eighteenth century says: "Three men are found sufficient to conduct an empty bateau of about two tons burden up the St. Lawrence, but if the bateau be laden, more are generally allowed. They ascent the stream by means of poles, oars and sails. When the current is very strong they make use of the former, keeping as close as possible to the shore, in order to avoid the current, and to have the advantage of shallow water to pole in. The men set their poles all together at the same moment, and all work at the same side of the bateau. The steersman, however, sheers his pole from side to side, in order to keep his vessel in an even direction. The poles commonly used are about eight feet in length, extremely light, and headed with iron. On coming to a deep bay or inlet, the men abandon the poles, take up their oars, and strike, if possible, directly across the mouth of the bay, but in many places the current proves so strong that it is absolutely impossible to stem it by means of oars, and they are obliged to pole entirely round the bays. Whenever the wind is favorable they set their sail, but it is only at the upper end of the river, or on the lakes, or broad parts of it, where the current is not swift, that the current by itself is sufficient to impel them forward. The exertion it requires to counteract the force of the stream by means of poles and oars is so great that the men are required to stop very frequently to take breath. The places at which they stop are regularly ascertained. Some of them, where the current is very rapid, are not more than half a mile distant, one from the other; others one or two, but none of them more than four miles apart."

Another writer says: "The bateaux were a different kind of boat, and were, like the birch-bark canoes, largely used on



the lakes, before the 'canoes with wings' made their appearance after the advent of the white man. They were used for the same purpose as the canoes, that is, the transportation of goods and passengers. Some of them would accommodate five or six families, and would carry a large amount of baggage. They were divided into brigades of twelve boats, each bateau having a guide or conductor with five or six men under him and serving the same purpose as a captain of the present day. After the bateaux came the Schenectady and Durham boats. These boats were in use for many years, and in the war between the French and English, which resulted, in 1759, in the conquest of Canada by the English, many of them were in use, on Lake Ontario especially."

A variation of the bateau, used later in the fur trade, is alluded to by a Chicago writer as follows: "The next navigating craft which should be dignified by the name of the 'Marine of the Lakes,' were suggested by the requirements of the fur trade, which called for a heavier vessel than the light bark canoe of the early explorers and missionaries. The Mackinaw barge, therefore, appeared upon the lakes and with it the voyageurs. These barges and sailors were known at Chicago for many years; but about the year 1830 both boats and voyageurs ceased to visit the settlement, as the sloops and schooners then introduced monopolized the lake trade."

*Early Sail Vessels.*—J. Collins, deputy surveyor-general of Canada in 1788, in an official report, expressed the opinion that for Lake Ontario vessels should be of 80 to 100 tons burden, and for Lake Erie about 15 tons, if intended to communicate between lakes; "but they should be built on proper principles for burden as well as sailing."

The first sailing vessel built upon Lake Ontario was a small schooner of about 10 tons burden, the Frontenac, constructed at the "Cabins," where Kingston is now. Upon this vessel, on November 18, 1678, La Salle sailed from Cataraqui, his destination being the mouth of the river Niagara, as elsewhere related.

The early sail vessels, from the Griffin

down to the sloops and schooners of the opening decades of the present century, were usually quite small, and built after the fashion of the times.

The brig Union, 93 tons, the first merchant brig built on the lakes, was owned by Jonathan Sidway and Elihu Pease. She was built at Huron, in 1814, and was afterward laid up for the reason that she was too large for doing business.

In the summer of 1793 there appeared on Lake Ontario, for the first time, the premier merchantman, built in Canada. She was named the York, and had been constructed on the river Niagara in the previous year, 1792.

Regarding the carrying capacity of sail vessels in 1839, the following shipments were made at Michigan City in the course of one week: Schooner Huron, Capt. John Kline, 4,746 bushels of wheat; schooner Marengo, Capt. W. W. Allen, 2,100 bushels of corn; brig Neptune, Capt. John Sims, 250 barrels of flour and 700 bushels of oats; brig Queen Charlotte, Capt. C. Whitmore, 1,420 bushels wheat; schooner Detroit, Capt. R. Cochran, 3,386 bushels wheat; schooner Western Trader, Capt. H. McHarry, 750 bushels oats and 175 barrels pork; schooner Savannah, Capt. Owens, 3,400 bushels corn; brig John Kenzie, Capt. John Thompson, 3,800 bushels corn, 2,000 barrels bacon and 100 barrels pork; schooner Missouri, Capt. Dunham, 3,600 bushels wheat.

The United States revenue cutter Alexander J. Dallas, built at Erie in 1816, and commanded by Captain Keith, has been thus described by Francis A. Dewey, of Cambridge, Mich. She was "a trim built vessel with black hull, painted ports, long raking masts and black yards. Her cabin was ornamented and decorated on all sides with cutlasses and swords, and around her masts were boarding pikes. On her main deck was the monitor gun, on the quarter deck was the swivel gun. The complement of men in uniform was 16."

Sail vessels declined steadily in importance as steam navigation improved. They are now small in tonnage as compared with propellers, and those in service are used

mainly as tows. Many of the types of sail vessels prevalent prior to 1860 have long since disappeared.

Full-rigged brigs became extinct in 1869 with the loss of the *Robert Burns*, in the straits, together with ten souls, a sad ending to this style of rig. Those in service were called brigantines, and in many instances were base counterfeits.

The number of scows gradually lessened as they were only useful in shoal waters, such as creeks and other places where vessels of greater draft dare not approach.

A veteran among lake captains contributed, last year, an article to the *Detroit Free Press* about some of these ships, of which he had personal knowledge. "One of the best of them all," he says, "was the bark *North West*, of which Capt. George McLeod, now so prominent in marine insurance circles, was master. From her he went into the *South West*, also a fast one, Arthur Atkins taking the other. Then there was the *Champion*, Capt. Calvin Carr. These three led all the fleets in the seventies. I had more faith in the sailing ability of McLeod than the others gave me. He was always on deck, quick, alert, with his sail all up and drawing whenever there was a chance for it, and quite popular. So keen was the rivalry between these three vessels that their masters, if they were together, did not hesitate to take the first tug when approaching the mouth of the Detroit river or the entrance to the St. Clair, and tow behind alone through to destination. Of course it cost the owner considerable in tow-bill, for the tug captain would demand extra compensation for being obliged to let all other vessels go by to other tugs. The *North West* passed out long ago; the *South West*, owned by Bradley, of Cleveland, and the *Champion*, owned by Crosthwaite, of Buffalo, are still afloat. Other rapid ones, that could at least make it interesting for the foregoing, were the *Golden Fleece*, Capt. Jesse Hurlbut; *Clara Parker*, Capt. C. W. Elphicke; *Lotus*, Capt. Al. Fitch; Chicago Board of Trade, Capt. R. H. White; *Newsboy*, Capt. Orr; J. Wells, Capt. John Bowman; J. G. Masten, Capt. Bob Todd. All of these were good vessels, and the men in

them could not be surpassed in their time so far as daring and skill and knowledge of the lakes were concerned. The *Golden Fleece* is rotting away on the shores of Lake Erie, near Dunkirk. She is the property of Jim Reid, the wrecker, but he finds that the cost of releasing her is more than she is worth; so she is doomed. The *Clara Parker* went ashore near Grand Haven during a terrific gale in November, 1883. Her crew were all rescued in the breeches-buoy. The *Lotus* is now a lumber hooker on Lake Michigan. The Chicago Board of Trade is owned by Inman, of Duluth,\* or Hawgood & Avery, but not much has been heard of her lately. Captain Elphicke we have all heard of through an extensive marine insurance and vessel brokerage business which he conducts in Chicago. Captain White lives in Detroit, retired after many more years in command of various steam vessels.

"A little later on the *Bertha Barnes*, Porter and Scotia became noted for their speed. The latter was in her time one of the largest schooners on the lakes. She was commanded by Capt. J. J. H. Brown, last year president of the Lake Carriers' Association, and one of the best known vessel agents on the lakes. She was a beauty, and Brown was the right kind of a man to sail her. Of course, my tale would be incomplete without some mention of the *Wells Burt*, which went down near Chicago with all hands in the spring of 1883; the *F. W. Gifford*, still sailing and owned by Captain Elphicke; the *M. S. Bacon*, Annie M. Peterson, J. I. Case, F. A. Georger, Nellie Redington, M. W. Page, Lizzie A. Law, Moonlight and Alice B. Norris. All of these are still afloat, but with topmasts off and towing wearily behind some steamer. In the sixties the *City of Buffalo*, *City of Milwaukee* and *City of Chicago* were trim and fast vessels of the same model. As I have said, I have my choice as to the fastest vessel in the seventies, but some will be inclined to dispute me. Many consider the *Unadilla*, long owned in Detroit, as about the best. She was certainly a handsomely-modeled, fast boat, and many a time has she paid for herself. She is still in commission after some thirty-five years of age.

Other smart ones in her time were the P. C. Sherman, Sam Flint and Invincible. The Flint is afloat, but the others have passed out. All these were square-rigged and carried royals. I remember once when the Lotus came out with a varnished bottom, the captain having the idea that it would not only preserve the wood, but make her more slippery. Soon the bolt-heads began to drip rust, and then she was painted black. The James Couch, now the Tasmania, had trim-boards on the sides. The Ogarita was flat-bottomed, beamier than anything then afloat, and the largest carrier on the lakes for her inches. The big Michigan, now owned by the Owen estate, of Detroit, was the first double-decked schooner on the lakes. She was sailed for many years by Capt. Fred Hart, now the manager of the fleet."

"The branches of the river contain many vessels which will never know another fitting-out time," said a Chicago writer in 1897. "Sailors will point to them as the crack boats of their time. When they came out they were the pride and wonder of marine men. Their races to the straits with cargoes of grain were more exciting than any yachting regatta. When the wind went to the southward they started out fifty strong and headed proudly straight for South Manitou island. Their sails were new and white, their masts were scraped, their decks were scoured, and as they drove past Grosse Point they made a beautiful marine picture. The first man to reach the ice was as proud of his ship as of himself. Those were the days when a captain was a captain, for he generally owned his own boat and sailed it as he willed."

Canal schooners, so-called because they were built of light draft to permit passage through the Welland canal, have been rapidly passing away during the past several years, and the extinction of this type of vessel will decrease the relative importance of Lake Ontario navigation until a larger passage way is provided. Many went down during the fall gales because they were overloaded. They were built for 14 feet draft, and at that depth were safe, but when channels were deepened and freights were

high the mortality among the canal schooners became almost an epidemic.

In a recent article published in the "Nautical Magazine," London, a writer describes the transition from sail to steam, especially as applied to navigation through the Welland canal. He says: "The type of vessels originally used for freighting throughout this lake system was a three-masted schooner carrying fore-and-aft sails—rarely a foretop sail and topgallant sail—limited in draft to the depth in the old canals, 9 feet, but borrowing improved beating power by the use of a centerboard. Next, propellers were introduced, of a hideously ugly type, literally built to fit the canal locks, and having their draught limited first to 9 and after the enlargement of the Welland canal to 14 feet, and their length to 270 feet, or 200 feet for the River St. Lawrence canals. Keeness of competition soon taught the lesson that the larger vessel was the cheaper carrier; and from that conclusion an abandonment of the Welland canal route, and the selection of ports on Lake Erie which would permit the use of vessels larger than the docks would accommodate as eastern termini of the great lake freight traffic, was a logical step. Gradually the type has changed, the wants of shipping have forced the government to spend more and more on the improvement of connecting channels and harbors, and to-day it is literally true that with every inch of additional draft gained, so larger steamers and barges are built to take advantage of the improvement. Owners and agents are kept thoroughly posted on every little fluctuation in level, and load down to the last inch that can be wriggled over the shoalest spots to be navigated, while they are ever demanding still deeper channels that they may build still bigger boats."

*Early Steamboats.*—Prior to 1816 steamboats had not been introduced on the Great Lakes, although it is on record that a steamer called the Dalhousie was built in 1809 at Prescott, Ontario, and was chiefly employed on the St. Lawrence river. It is also a matter of record that during the same year the steamer Accommodation passed down the St. Lawrence, arriving at Quebec



from Montreal about November 5. The *Quebec Mercury* of November 5, 1809, said: "On Saturday morning at 8 o'clock arrived here from Montreal, being her first trip, the steamboat Accommodation with ten passengers. This is the first vessel of the kind that ever appeared in this harbor. She is continually crowded with visitants. She left Montreal on Wednesday at 2 o'clock, so that her passage was 66 hours. She has at present berths for twenty passengers, which, next year, will be considerably augmented. No wind or tide can stop her. She has 75 feet keel and is 85 feet on deck. The price for a passage up is \$9 and \$8 down, the vessel supplying provisions. The great advantage attending a vessel so constructed is that a passage may be calculated on to a degree of certainty in point of time, which cannot be the case in any vessel propelled by sails only. The steamboat receives her impulse from an open double-spoked perpendicular wheel on each side, without any circular band or rim. To the end of each double spoke is fixed a square board, which enters the water and by the rotary motion of the wheel acts like a paddle. The wheels are put and kept by steam operating within the vessel. A mast is to be fixed in her for the purpose of using a sail when the wind is favorable, which will occasionally accelerate her headway."

The construction of the steamers Ontario and Frontenac on Lake Ontario in 1816, and of the Walk-in-the-Water on Lake Erie is described elsewhere in this volume.

With reference to steamboat history no allusion has been made to those built at Montreal aside from the Accommodation. It is not out of place to make mention of others built there, as follows: 1812, steamer Swiftsure; 1814, steamer Malsham; 1816, steamer Car of Commerce; 1817, steamer Lady Sherbrooke; 1817, steamer Caledonia; 1817, steamer Telegraph; 1818, steamer New Swiftsure; 1818, steamer Quebec 1st.

On Lake Ontario following the steamboat Ontario was the steamboat Sophia, of 75 tons, built at Sacket's Harbor. Her career was a brief one, and eventually she was broken up. At Kingston, in Canada,

the steamer Charlotte, of 150 tons burden, was built in 1818. She was the first steamer to ply on the Bay of Quinte, going from Prescott to the head of that bay. The Dalhousie, built in 1819, was the third steamer built on the Canada side of Lake Ontario, at Kingston, by Henry Gildersleeve, ship carpenter, and plied on the same route as the steamer just noted. The Martha Ogden, the fourth steamer built on the United States side of Lake Ontario, commenced plying in 1825.

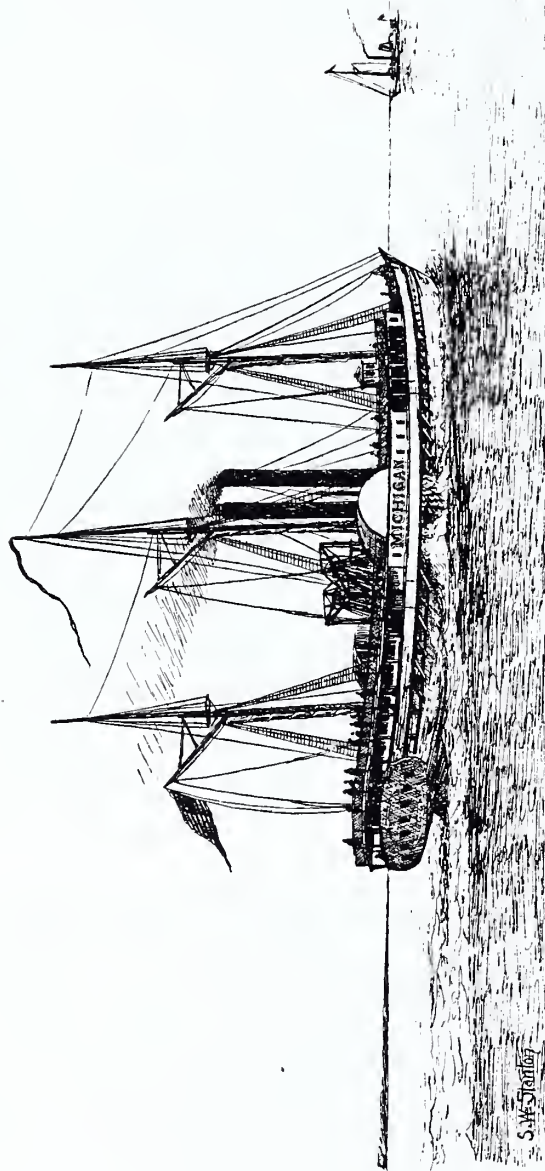
The monopoly for steam navigation on the waters of New York State, granted by repeated Acts of the Legislature, to Robert Fulton and Robert R. Livingston, gave rise to much litigation, and in a suit of Ogden *vs.* Gibbons, commenced in the Court of Chancery, September 27, 1819, and involving the rights of the steamboat Ontario, it was decided in favor of the grant. An appeal was made to the Court of Errors, and the case was finally carried to the Supreme Court of the United States, which decided in February, 1824, that the Act was "repugnant to the clause of the Constitution of the United States which authorized Congress to regulate commerce, so far as the said Acts prohibited vessels licensed according to the laws of the United States, for carrying on the coastwise trade, from navigating the said waters by means of fire or steam."

In 1820 there were only four steamers on the Great Lakes, against seventy-one on Western rivers and fifty-two on the Atlantic coast.

During the next decade eight steamers were built on the Great Lakes. The Superior, measuring 346 tons, came out in 1822 at Buffalo; the Martha Ogden, of 49 tons, at Sacket's Harbor, in 1823; the Pioneer, measuring 125 tons, at Buffalo, in 1825; the Niagara, measuring 157 tons, and the Henry Clay, same place, in 1826; the Enterprise, measuring 219 tons, at Cleveland, in 1826; the William Penn, measuring 215 tons, at Erie, in 1826; and one small craft of 94 tons.

The steamer Sheldon Thompson came out in 1830, and carried three masts, the first of that rig on the lakes. Then during





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**STEAMBOAT MICHIGAN.**

Built at Detroit, Mich., in 1833. Length 156 feet; two beam engines of 80 horse power each.



the succeeding years came out the following steamers, many of which were historic: The William Peacock, the North America, the W. F. P. Taylor, the Charles Townsend, the Daniel Webster, the Thomas Jefferson, the General Porter, the Oliver Newberry, Washington No. 1, Washington No. 2, the Pennsylvania, the Barcelona, the United States, the Wisconsin, the Milwaukee, the Illinois No. 1; most, if not all of them, prior to 1836. Then from that time on until 1840 came out the following: The James Madison, the DeWitt Clinton, the Buffalo, the Robert Fulton, the Commodore Perry, the General Wayne, the New England, the Sandusky, the Constellation, the Rochester, the Bunker Hill, the Cleveland, the Chesapeake, the Red Jacket, the Waterloo, the Cincinnati, the Caroline, the Governor Marcy, the last two of which came up through the Erie canal; the New York, the James Monroe, the Constitution, the Columbus, the Chautauqua, the General Scott, the General Harrison, the Julia Palmer, the Great Western, the Julius D. Morton, the Arrow, the Baltimore, the Boston, the Baltic, the Albany, the Ben Franklin, the Erie, the Little Erie, the Detroit, the Fairport, the Troy, the Empire, the Empire State, the Champion, the Globe, the G. P. Griffith, the Indiana, the Keystone State, the Lexington, the Louisiana, the Michigan, the May Flower, the Missouri, the Nile, the Niagara, the New Orleans, the Ohio, the Oregon, the Saint Louis, the Star, the Swan, the Sultana, the Southerner, the Saratoga, the Superior No. 2, the Tecumseh, the Vermillion, and the Queen City.

The Nile had a low-pressure beam engine, which had been in the Milwaukee, and which was afterward in the Orion. The Julia Palmer also had a low-pressure beam engine. She was commanded by Capt. T. J. Titus in 1844 and 1845, and ran on Lake Erie in opposition to the Constitution, the James Monroe being detailed to run along side of her, which she did from port to port, carrying passengers for almost nothing.

In his history of Detroit, Silas Farmer thus describes the Michigan: "When the

steamboat Michigan was launched at Detroit April 27, 1833, she was the largest then on the lakes, and the second built at Detroit, the first being the Argo. The deck of the Michigan was 156 feet long; breadth of beam 29 feet; extreme width 53 feet; and depth of hold 11 feet. The gentlemen's dining room contained 30 berths aloft the engines and six staterooms forward with three berths each. The intermediate space between the engines formed a part of the dining cabin, and was richly paneled and gilded. The ladies' cabin on deck contained 16 berths, and was elegantly furnished. The forward cabin contained 44 berths. She was propelled by two low-pressure, walking-beam engines, with cylinders of seven feet, three inches stroke and 40 inches in diameter. She sailed on her first trip October 11, 1833, under the command of Captain Blake."

The Michigan was built and owned by Oliver Newberry, of Detroit, who for many years was associated with and largely engaged in the commerce of the lakes. This boat made one or more annual trips for pleasure, generally making the circuit of Lake Michigan. She was a fine specimen of a steamer, far in advance of most boats of her time. Though her model was by no means comely, her speed was quite equal to others, having powerful low-pressure beam engines. Her fine finish, splendid fixtures and furniture, which were quite superior to any other in that day, together with her veteran commander, Captain Blake, rendered her a favorite with the traveling public. The Michigan was a most unique specimen of naval architecture, inasmuch as she had two engines, one on each side, and each wholly independent of the other. This arrangement worked very well in calm weather and in smooth water, but in rough weather, when the waves rolled high, one of the wheels would be deep in the water while the other would be partly or wholly out of it, and while the one in the water would be laboring with great difficulty the one out of the water would fly around like lightning. This had the bad effect of jerking the boat about from side to side, making her navigation both difficult and un-

pleasant. The two independent engines were in all probability only an experiment, and so far as known this experiment has not since been imitated.

The steamer *Cleveland* came out in 1837, she was built at Huron, and sailed by Capt. Asa E. Hart, and was low pressure. She first carried her boilers on her guards, which caused her to be over crank, and they were subsequently placed below decks. She first carried two smoke stacks, wide apart, but on the removal of her boilers only one was used. It was on board the *Cleveland* that the first steam whistle was placed in use on the lakes.

Prior to the advent of the steam whistle, bells were in universal use on steamboats, and they were generally placed so as to surmount the projection of the engine above decks. In the spring of 1844 the steamboat *Rochester* came out with a general overhaul, the addition of an upper cabin being a prominent feature. William McGee, a practical machinist, was chief engineer, and he during the preceding winter had constructed a steam whistle from plans illustrated in the "Scientific American." This whistle he attached to the boiler of the *Rochester*, merely as an experiment and for the novelty of the thing.

The *Rochester* left Buffalo for Chicago early in May, and when on Lake Huron, nigh unto Bobolo light, she overhauled the propeller *General Porter*, Capt. Charles L. Gager, between whom and engineer McGee there had long existed a bitter enmity. The *Rochester* approached directly in the wake of the propeller, and when close up to her McGee gave his whistle vehement voice, ostensibly to "shoo-fly" the *General Porter* and her master. The defiant whistle continued to blow while the *Rochester* forged ahead of the slow-going propeller, and soon after the steamboat landed at Mackinac, where also in due time came the *General Porter*. Captain Gager, unaware of the fact that McGee was the culprit, hastened to the landing place of the *Rochester*, and in a loud voice demanded the presence of the man that had so insultingly "squawked" at him; whereupon McGee shouted: "Here he is," and landed on the

dock at a bound. Then nothing but the determined intervention of mutual friends prevented a serious encounter between the two stalwart men, each of whom was brave and weighed nearly 200 pounds.

McGee's steam whistle was one of the first on a lake steamboat, and proving itself of great utility, the steam whistle soon thereafter relegated the alarm bell to the rear, not only from steamboats but from factories on shore as well.

The *James Madison*, owned by Charles M. Reed, of Erie, was built with particular reference to the upper lake trade. Her capacity for freight and passengers was the largest upon the lakes at that time. She was also a popular boat, and was a source of large profit to her owner. She was first under the command of Capt. R. C. Bristol, and for many years afterward was commanded by Captain McFadden.

In 1837 the steamer *Illinois* was built by Oliver Newberry. She was also designed for the Chicago trade. In this boat were combined many qualities, both in her size, symmetry, beauty of model, style of finish, speed, and seaworthiness, which placed her in the foremost rank of steamboats, and enabled her to receive a most liberal patronage for many years. She was brought out under the command of Captain Blake.

From year to year the immigration to Illinois and Wisconsin continued to increase until a daily line of boats was established between Buffalo and Chicago; while at the same time the public demands were such as to require a still further advance and a different class and style of boat—one with better accommodations and increased facilities, suited to the condition and circumstances of a large class of the more refined and wealthy, who were then emigrating and settling in Illinois and the adjoining States. Hence the necessity for introducing the upper cabin boat.

When the *Great Western* first made her appearance upon the lakes, and during the two years in which she was being built, many who claimed to be judges expressed doubts of the practicability and seaworthiness of that class of boats. But in a few

trips she became a favorite with the public, and notwithstanding the opinions and prejudices of the few, was the means of bringing about an entire revolution in the construction of our steam marine upon the lakes, causing all the boats in commission and contemporary with her to convert their lower cabins into steerages and freight holds, and substitute the upper cabin. Probably no three boats contributed so largely to the settlement of Illinois and Wisconsin as the steamers James Madison, Illinois and Great Western.

The steamer Great Western was commissioned in 1839, and owned and commanded by Capt. Augustus Walker. Her dimensions were: Length, 183 feet; breadth of beam, 34 feet 4 inches; across the guard, 60 feet; depth of hold, 13 feet; custom house tonnage, 781 tons, being greater than any craft that floated on fresh water up to that period. She was propelled by a high-pressure engine, made at Pittsburg and said to be the largest engine of that description ever made in the United States. The cylinder was 30 inches in diameter, stroke, 10 feet, and rated at 300 horse power. Her paddle wheels had a radius of  $13\frac{1}{2}$  feet and 12 feet in breadth. The entire hull was occupied by the boilers, with holds for freight and wood. On the main deck aft was the ladies' cabin and staterooms, while on the hurricane deck the main cabins extended almost the whole length of the boat. On this deck there was also a ladies' saloon aft, the dining cabin next and the saloon or bar-room forward. State rooms, sixty in number, were arranged on either side of these cabins, the whole length, with three berths in each, making in all about 300 berths.

The upper cabin of the Great Western was the first on the lakes. Other steamers then came out in rapid succession with upper cabins, when it was found that an upper cabin caused a steamer to run more steadily in a storm. Those that came out so equipped were as follows: the Niagara, the Empire, the Empire State, the Saint Louis, the Louisiana, the Indiana, the Western World, the Plymouth Rock, the City of Buffalo, the Chesapeake, the De-

Witt Clinton, the General Wayne, the Bunker Hill, the Illinois, the Wisconsin, the James Madison, the Cleveland, the Constellation, the Robert Fulton, the General Harrison, the Commodore Perry, the Missouri, the Columbus, and the United States, together with a few others, the Rochester being the last of the old-style boats to adopt the improvement. Afterward the following new boats came out with upper cabins: the Nile, the Empire, the Sultana, the Indiana and the Superior No. 2.

The Saint Louis was built in 1842 in Buffalo for Mr. Hollister, and was commanded by Capt. George W. Floyd. She had a low pressure, upright, square frame engine, which had been in the Sandusky, and she was subsequently commanded by Capt. Fred Wheeler. This style of engine was then much used on the lakes and on the Hudson river; but before 1870 it had gone entirely out of use. The following steamers had this style of engine: the Thomas Jefferson, the Sandusky, the Buffalo, the Constellation, the Keystone State, the New England, the Illinois, the Sultana, the Wisconsin, the Saint Louis, the Rochester, the General Wayne, the Queen City, and others.

Until the Chesapeake came out in 1840 all lake steamers had two smokestacks, she being the first single pipe boat on the lakes. When the Missouri appeared she brought out another innovation, having her boilers on the deck, after the style of the boats on the Hudson river, her smoke stacks being set wide apart. She belonged to General Reed, of Erie, and together with the Jefferson, Madison and Buffalo, constituted the famous Reed line. The Niagara, Louisiana, Queen City and Keystone State were later additions to this line.

The Missouri and Madison ran to Chicago, and were for this reason called "upper lakers." The steamboat Erie also belonged to General Reed. She was built in 1838-39, and ran in the Chicago line.

Early in the winter of 1844 G. W. Jones, shipbuilder at Cleveland, laid the keel of a mammoth steamer, to be constructed for D. N. Barney & Co., of that port, of the



following dimensions: Length of keel, 254 feet; on deck, 265 feet; and of 1,200 tons burden. Her dining cabin on the upper deck was 230 feet long, with staterooms on either side, and a ladies' saloon at the end of the dining cabin. Her engine was 500 horse power, wheels 30 feet in diameter, with buckets of 12 feet. The steamer was launched in the fall, and christened the *Empire*. She came out the following season, commanded by O. Howe, formerly master of the *Chesapeake*.

"In the early days of steamboat building," said J. F. Holloway, in "The Engineering Magazine," "there was much experimenting as to what was the best kind of machinery to be employed; indeed, so distinctly different were the types of engines used that persons familiar with the different steamers could readily distinguish them, when, to an unpracticed eye, they were but dots upon the horizon, and so varied was the drumming of their revolving wheels, and the extent and sharpness of their escaping exhaust steam, that in the darkness of the night, or when hidden under a heavy fog, they could be named. Some of the boats were propelled through the medium of a walking beam, which projected above the cabin, and to which there was attached sometimes the figure of a galloping steed, whose alternate rising and plunging forward was perhaps intended to indicate not only the taste of the owner or builder and the speed of the boat, but to some extent the horse-power of the mechanism to which it was attached. Other boats had what were known as 'square engines,' which also projected in part above the cabin, but which had, in place of the tumbling beam, a vertically-moving cross-head, with swinging connecting-rods on each side, attached to the cranks on the paddle-wheel shaft, and which, when in motion, were not unlike a pair of crutches under a lame man, and seemingly for the same purpose of getting ahead. Others were driven by what are known as horizontal engines, which, while they took up considerable space on the main deck, left the cabin above them a long and uninterrupted saloon which, while adding to the comfort of passengers, gave great-

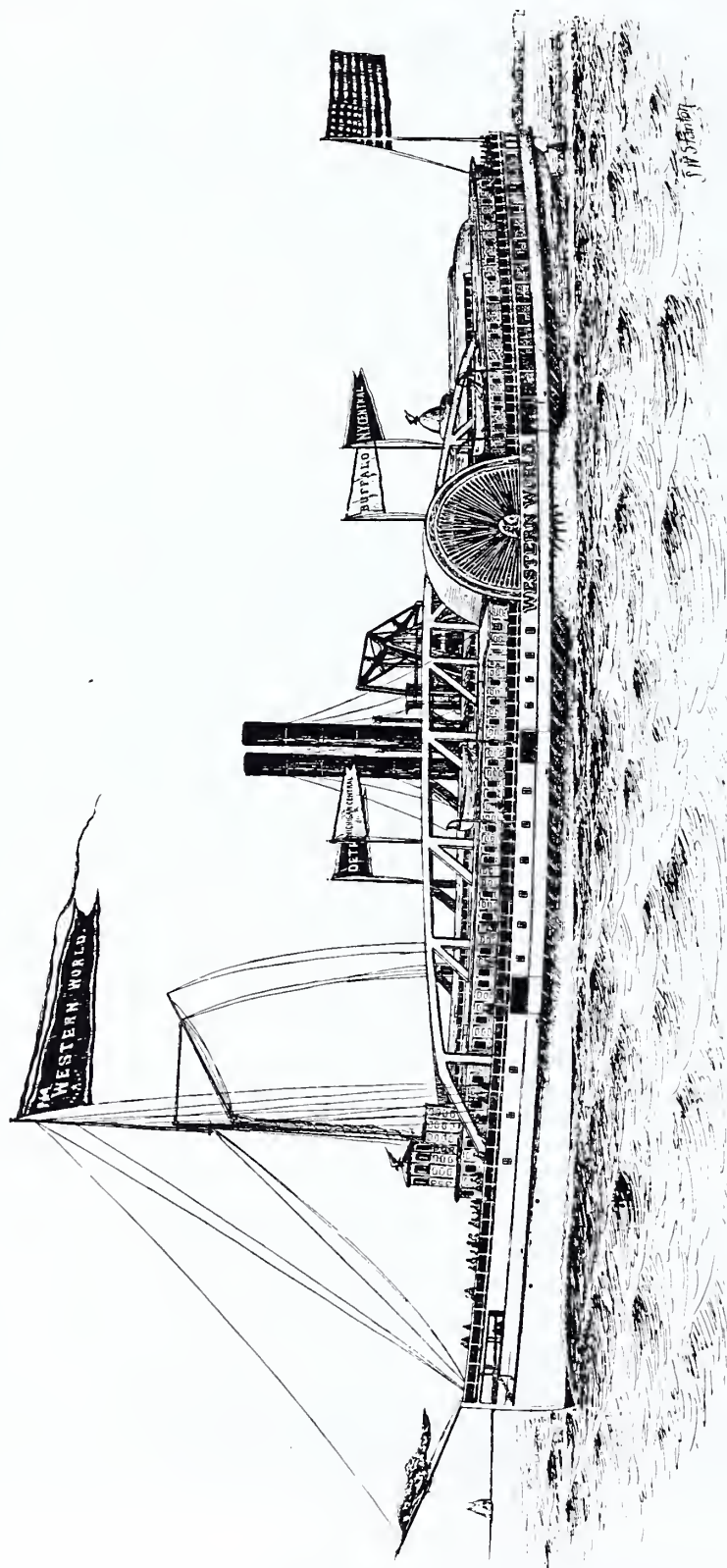
er opportunity to the decorative artists to show their ingenuity and skill. Many an old-time traveler can doubtless recall the bits of scenic painting displayed on the panels of the long row of stateroom doors, on either side of the cabin, the subjects of which ranged from the ducal palace of a prince on the banks of the Rhine to the rustic ruin of a hunter's camp in the wild West."

The capital invested in steamboats at Buffalo in 1836 was \$1,000,000. The expense of running these boats at that period, performing regular trips through the lakes, including wages of men, wood, provisions and ordinary contingencies, was from \$100 to \$150 per day each.

The amount of wood consumed by a steamboat during a trip through the lakes and back was from 100 to 300 cords, averaging probably 150 cords. Each boat performed from thirty to thirty-five trips in a season, and of course consumed 5,000 cords of wood. The whole amount consumed by 24 boats, the number usually engaged, great and small in regular trips through, would be 120,000 cords. The smaller boats, and those employed upon the river, used probably 30,000 cords, which would make the total of 150,000 cords of woods consumed in one season. The price of wood varied in different ports from \$1.50 to \$2 per cord, making the average cost of wood consumed in one season by steamboats, over \$250,000 a year. The number of hands employed on steamboats running through the lakes was from 20 to 30 each. The smaller boats employed from 8 to 15 each. The entire lot of men engaged in steamboat navigation, in 1836, numbered about one thousand.

"The actual number of steamboats on the lakes in 1847 compared with 1841," says a writer in the former year, "is not much, if any, increased; but those which have gone off have been supplied by others of double and quadruple in capacity. At that day there was but one boat over 700 tons, and one other above 600 tons burden. The new ones range from 600 to 1,200 tons. At that time the business from Buffalo to Chicago could be done by six or eight of





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#### STEAMBOAT WESTERN WORLD.

Built at Buffalo in 1854. Length 348 feet; beam 45 feet; engines vertical beam, 1,500 horse power; 2,002 tons; Western World and Plymouth Rock, duplicates, two of the finest side-wheel steamers ever built on the lakes; each cost \$250,000; hull timbers diagonally braced with iron; four water tight compartments; ran only a few years.



the then largest size boats; in 1847 it required fifteen, of more than double capacity, to do it, aided by about twenty steam propellers of more than 300 tons each, and an almost endless number of large brigs and schooners, many of which can carry from 10,000 to 15,000 bushels of wheat.

"About 1850 was the height of steam-boat prosperity on the lakes. There was at that time a line of sixteen first-class steamers from Buffalo to Chicago, leaving each port twice a day. The boats were elegantly fitted up, usually carried a band of music, and the table was equal to that of most American hotels. They usually made the voyage from Buffalo to Chicago in three or four days, and the charge was about ten dollars. They went crowded with passengers, four or five hundred not being an uncommon number, and their profits were large. The building of the trunk line railroads from east to west soon took away the passenger business, and the propellers could carry freight at lower rates than the expensive side-wheel boats, so they gradually disappeared. In 1860 their number was very small, compared with what it was ten years earlier, while the number of screw-propellers increased steadily."

The largest steamer on the lakes in 1859 was the *Western World*, 2,002 tons. There were 9 others beside, over 1,000 tons each, 21 measuring over 400 tons, 58 measuring over 200 tons, 70 measuring over 100 tons, 63 measuring over 20 tons, and 61 measuring under 20 tons.

In May, 1863, the steamers *Western World*, *Plymouth Rock* and *Mississippi* were taken from Detroit to Buffalo to have their machinery removed, and otherwise to be dismantled. These fine steamers were commissioned in 1855, plied but three seasons, and were among the largest and finest floating palaces ever put upon the lakes, and like everything else earthly they had their time; so had the railroads which scooped them, and there was no further use for them. An extravagant outlay of money to a very small purpose, as they never realized one dollar over expenses.

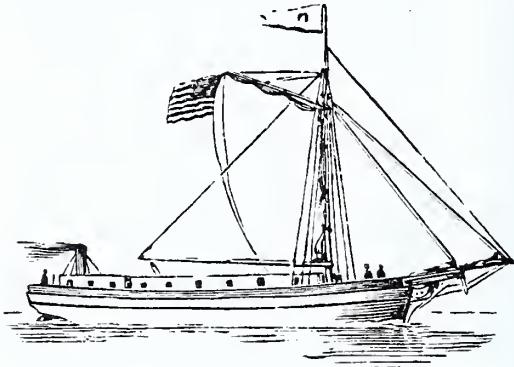
*Advent of the Propeller.*—John Ericsson, the famous engineer, brought the screw

propeller to perfection. Patents had been granted to other inventors in America as early as 1791, and a screw propeller had been operated on the Hudson from 1802 to 1806 by Col. John Stevens. But not until 30 years later did the inventions prove a success. Ericsson made his first experiments with the screw propeller in England in 1836, associating with him Francis B. Ogden then United States consul at Liverpool. A model was built and tested in a public bath at Liverpool. Then a boat, 40 feet long, was launched on the Thames. It was propelled by a double screw and attained a speed of 10 miles an hour. The Lords of the Admiralty were towed up and down the Thames in their barge by this primitive propeller, and they were asked to adopt it for the British navy service. But the lords decided that no vessel could be steered, if the power was applied at the stern, for had not previous experiments with paddles too near the stern proved that fact?

But Robert F. Stockton, a friend of Ericsson, and an officer in the United States navy, believed in the new application of power. He ordered a small propeller, which was named after him, and sent it across the Atlantic under sail. Ericsson came to America in 1839 and tried to interest the United States Government in his invention. He succeeded in 1844, when the steam frigate *Princeton* was built with submerged wheels, but before this time Ericsson's screw had been applied to 41 commercial vessels, running on the lakes and along the coast. The first of these was the *Vandalia*, of 138 tons. She was contracted for in December, 1840, and made her first trip from Oswego to the head of Lake Ontario in November, 1841.

The *Vandalia* was sloop-rigged. She had cabins on deck, fitted up for passengers. She made her trial trip on Lake Ontario in November under command of Capt. Rufus Hawkins. In the spring of 1842 she passed through the Welland canal to Buffalo, where she attracted great attention and awakened great interest among lake men. The total weight of her machinery was fifteen tons, and ten cords of wood were

sufficient to run her each day. Subsequently the *Vandalia* was enlarged to 320 tons and her name changed to *Milwaukee*.



THE FIRST SCREW STEAMER, PROPELLER VANDALIA.

The *Vandalia* was followed by the propeller *Oswego*, of 150 tons, in 1842. In 1843 seven propellers were built as follows: The *Hercules*, 273 tons, at Buffalo; *Samson*, 250 tons, at Perrysburg; the *Emigrant*, 275 tons, at Cleveland; the *Racine*, 150 tons, at Oswego; New York, 150 tons, at Oswego; Chicago, 150 tons, at Oswego; and the *Independence*, 262 tons, at Chicago. In 1844 the *Porter*, of 310 tons, was built at Buffalo, and in 1845 the *Syracuse*, at Oswego; the *Princeton* at Perrysburg, and the *Phoenix*, at Cleveland. Up to 1850 there had been built 50 propellers, measuring 16,427 tons. They have since largely supplanted the side-wheel steamers, except for elegant passenger service.

The propeller *Hercules* was 135 feet long, 25 feet beam, 8 feet hold, and was built in the strongest manner. She had 14 staterooms, 6 feet square, with sufficient additional space for the erection of 46 berths more, thus affording ample accommodations for families who were emigrating.

Her space below for storage was large, having almost the entire hull of the vessel appropriated for that purpose. The principal feature, however, of the *Hercules* was her engine and its auxiliaries. The engine was simple and very small, being close upon the keelson, and filling a space of six feet, and weighing 15 tons with the entire steam apparatus. It was one of Ericsson's patents

made at Auburn, and was 50 horse power. The paddles were made of boiler iron  $\frac{3}{4}$  inch thick, 18 inches broad by 30 long, and were placed on two long wrought-iron shafts protruding from either side of the stern post. The diameter of the paddles was 6 feet, 4 inches. She was owned by the Messrs. Hollister, of Buffalo, and cost \$20,000, being intended for the freight and passenger trade on the upper lakes.

In July, 1843, the *Independence*, the first propeller built on Lake Michigan, was launched at Chicago. She was a large vessel for those days, being of 262 tons burden. Aft the cabin in the after-run was placed an engine with which to run a propeller wheel, in case of head winds. The *Independence* was for years a successful sailing vessel, and it is claimed that she was the finest steam barge of the lakes. She was wrecked on Lake Superior in 1853.

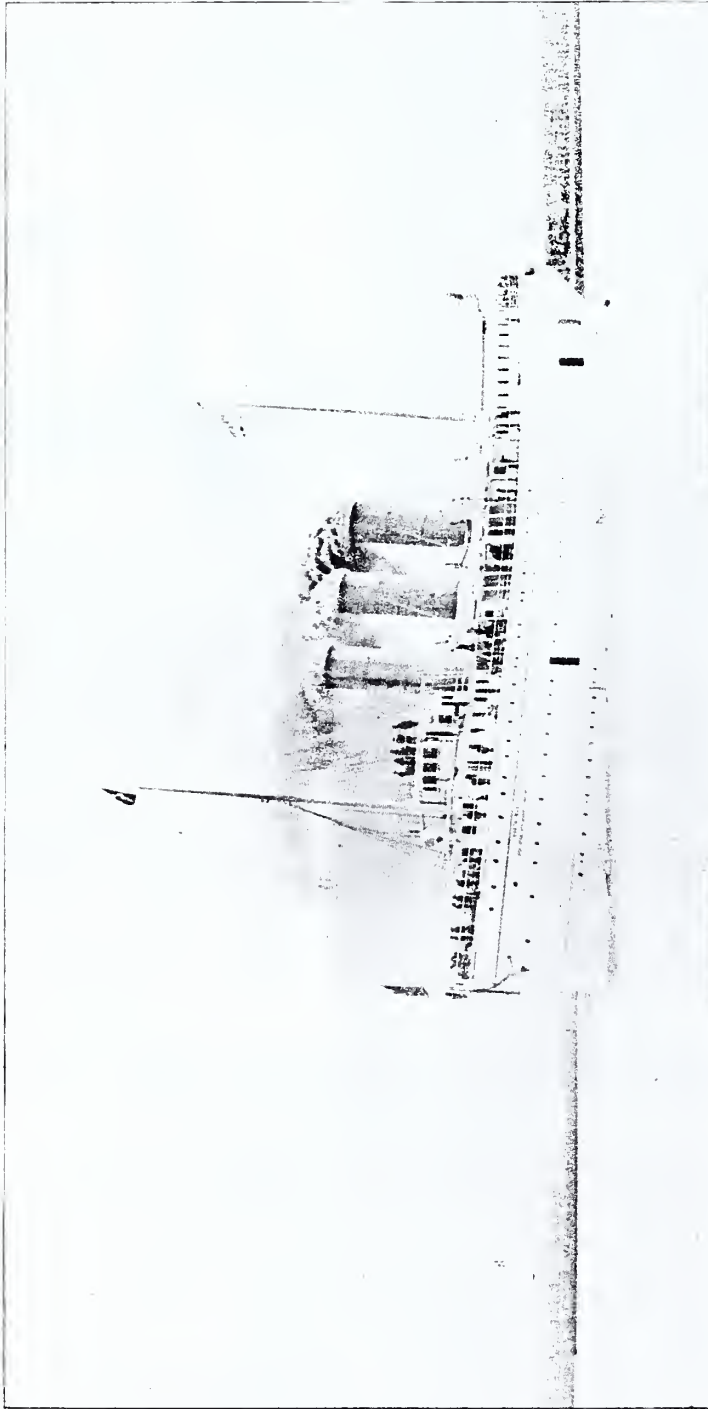
James Averill, a shipbuilder from Maine, had opened a shipyard at Chicago, and built the *Independence*. She was 112 feet keel, 25 feet beam, and 9½ feet hold. She was ready for running in June of that year. The *Samson* performed the round trip between Buffalo and Chicago in 15 days, which in those days was considered remarkable speed.

The *Hercules* made the down trip from Chicago to Buffalo in six days, her cargo consisting of 2,100 barrels of flour besides sundries consigned to Waring, Stocton & Co. and Beecher & Co., Buffalo.

The old side-wheel steamer *General Porter* was converted into a propeller season of 1843 by Capt. C. S. Gager, at Buffalo. The propeller *Emigrant*, which came out that year, was 275 tons burden, built at Cleveland at a cost of \$15,000. The propeller *Racine*, 150 tons, came out at Oswego the same season, plying from that port to Chicago. She was subsequently converted into a sailing vessel, and lost on Lake Erie in 1849. The propeller *New York*, built at Oswego, 150 tons, and the *Chicago* 150 tons, from the same port, were also commissioned in 1843, and were all the new American boats that season. They plied in connection with the New York, Oswego & Chicago line, carry-







PASSENGER STEAMER NORTH WEST

ing merchandise and passengers westward, and produce to the east.

On the Canada side of Lake Ontario, the propeller *Adventure* came out, and was the first of that class of steamers in those waters, and was 158 tons burben. She astonished vessel men by making the run from Toronto to Quebec in three days!

It was the propeller that inaugurated steam navigation on Lake Superior. In the fall of 1845 the *Independence* was taken to the Sault Ste. Marie by Capt. J. M. Averill, and preparations made to take her over the portage. During the winter following and the succeeding spring, this was accomplished, and the *Independence* cast her anchor above the rapids in May, 1846. This propeller doubled White Fish Point, June 27, 1846, with Capt. Barton Atkins at the wheel. At that time the only ports on Lake Superior were Copper Harbor, Eagle Harbor, Eagle River and Ontonagon, landings being made at these in small boats from the steamer at anchor in open water. The only light-houses then on Lake Superior were on White Fish point and Manitou island. Navigation was dangerous because there were no reliable charts, and the compass varied so much that it could not be depended on.

*The modern side-wheel steamer* is a palatial craft, embodying the perfections of the shipbuilder's craft. Among the best examples are the *North West* and the *North Land*, twin steamers, brought out in 1894 and 1895, respectively, for the Northern Steamship Company.

In these steamers a radical change was made from the old styles of treatment. The time-honored pine woodwork, finished in white enamel paint, with a superabundance of gilding, has given way to a rich mahogany finish, spirited carving, soft coloring and a judicious use of gold, producing a symphony of brown, bronze-green and gold with the delicate carving and relief work, repeated through an imposing length of space.

The grand saloon, situated on the deck, has long, sweeping lines of beauty, lofty roof, mellowed light, highly polished carved mahogany, tinted panels with relief work

picked out in gold, luxuriously upholstered furniture, sumptuous carpets, and a finely designed balcony in antique brass. There is also a complete library, a very cosy café and a smoking room for card playing, etc.

The keynote of the *North West's* system of decoration is a modified rococo, and this motive is followed up through all her fittings and furnishings. The grand staircase leading from the spar deck to the dining-room below is very rich in design, and of solid mahogany. From the landing, about half way down, the stairs take on both sides a half turn and lead directly into the dining-room. To the right and left of the stairs are the sideboards, fine examples of cabinet work and carving. These sideboards are duplicated at the other end of the dining-room, on either side of a mantel and fireplace. The ceiling is panelled and enriched by ornaments in relief. The cove is decorated with paintings of festoons of fruits and flowers. There are finely modelled ornaments in the panels and on the pilasters, finished in burnished gold that adds to the scheme of color—a low-toned old ivory—and sparkle in the brilliant illumination of the many incandescent lights that stud the ceiling and sides of the boat.

Besides the ordinary staterooms, which are light and airy, the *North West* has several suites of apartments which boast of luxury and comfort. They are situated forward on the hurricane deck, and are finished in white mahogany and furnished with full-sized brass bedsteads in special designs. Rich rugs, beautiful lace spreads, tables, and lastly, elegant private bathrooms, secure a luxurious comfort. The staterooms are lighted by 16 candle-power lamps, enclosed in ground-glass globes; these lamps are lighted and extinguished by a switch placed adjacent to the berth.

The dynamo room is located forward and occupies a place by itself. The ships are equipped with electric signal lights of 100 candle-power each, connected with an automatic alarm attachment located in the pilot house. In case a lamp is extinguished by accident or otherwise, it rings an alarm bell in the pilothouse, also lights a lamp

immediately, thus notifying the officers in charge that a lamp has been extinguished.

About 1,500 tons of steel and 145 tons of iron entered into the construction of the hull; the two largest castings, not counting engine castings, two cylinders of which weighed 15 tons each, were at the stern and weighed  $5\frac{1}{2}$  tons each. The boilers, 28 in all, have been subjected to a pressure of 800 pounds per square inch and are operated at a pressure of 275 pounds. They contain 4,032 separate tubes, with a combined length of about four and a half miles. They drink 70 tons of water per hour, enough to fill a tank 50 feet long, 5 feet wide, and 9 feet deep. In a round trip the boat would turn into steam a quarter of a mile of water, 25 feet wide and 9 feet deep.

Her regular and auxiliary engines employ 65 steam cylinders, 26 pump cylinders and 6 centrifugal pumps. The propellers turn 120 times a minute, and at each revolution send the ship forward 17 feet, that is at the rate of 22 miles per hour, which under pressure may be increased to 27 miles an hour, the speed of an ordinary passenger train.

Nearly 26 miles of electric wire are used, conducting fluid for 1,200 16-candle-power lights. The lamps exceed by 300 the number on the largest ocean steamship. The electric search light on deck has 100,000 candle power, and was used on the Liberal Arts building at the World's Fair in Chicago.

The average commissary order for a round trip of about five days includes 3,000 pounds of beef,  $5\frac{1}{2}$  barrels of flour, 450 pounds of butter, 350 pounds of sugar, 500 gallons of milk, 40 gallons of cream, 430 dozen eggs, etc.

Another instance of the best type of the modern sidewheel steamer is the City of Buffalo, built in 1895 by the Detroit Dry Dock Company for the Cleveland & Buffalo Transit Co. She is 308 feet over all, 298 feet on water line, 75 feet over guards, and 17 feet 4 inches deep. The hull is  $\frac{3}{4}$  inch steel and is divided into eleven water-tight compartments. The engines are compound beam, the cylinders being 52 inches by 8

feet stroke and 80 inches by 12 feet stroke. The paddle wheels are  $30\frac{1}{2}$  feet diameter, and of the Clyde feathering type. There are six Scotch boilers,  $12\frac{1}{2}$  feet diameter by 12 feet long, tested to 175 pounds and working at 125 pounds. The main deck will carry 800 tons of general merchandise. There are 160 commodious staterooms, six sumptuous parlors and 150 single berths, a total sleeping capacity in berths for 640 people. The grand saloon is 250 feet long. The diningroom, furnished in oak, will seat 150 people, and adjoining the spacious day cabin, at the extreme stern, are two cozy private diningrooms.

*Iron and Steel Vessels.*—The propeller Onoko, built at the Globe works, Cleveland, in 1882, is usually regarded as the prototype of the modern steel propeller. Previous to that time, however, there had been a number of iron vessels constructed.

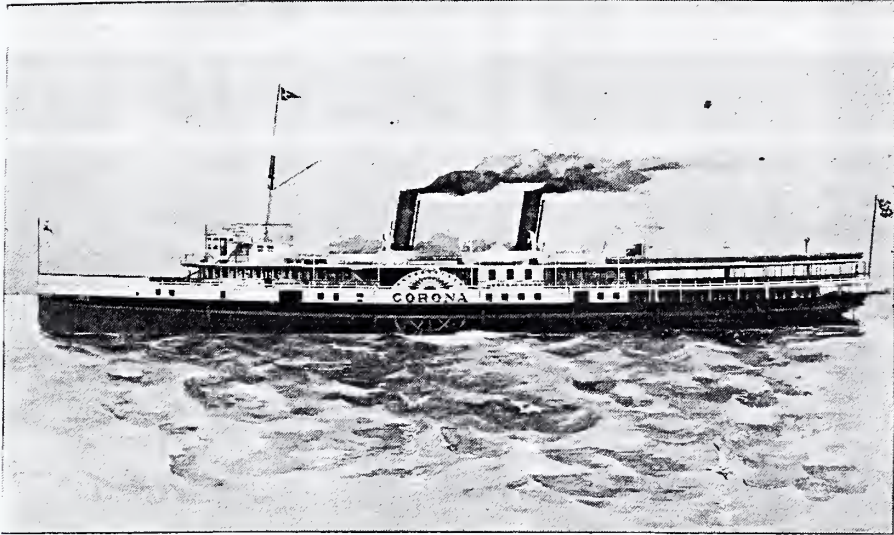
The steamer Alert was an iron steamer, built at Buffalo for the topographical service, and launched December 21, 1843. She was of small dimensions and designed exclusively for the survey service of the lakes. She was built entirely of sheet iron, on Lieutenant Hunter's plan, horizontal submerged wheel, and of light draught, about three feet. She had two common high-pressure engines, which gave her great speed.

The United States iron propeller Jefferson was launched early in 1844 at Oswego. The material for her construction was prepared at Pittsburg, whence the iron was conveyed to Oswego, ready for fitting together. The Jefferson was 360 tons burden, and pierced for 26 guns, but carried only one gun amidships. Her engine was one of the Ericsson model of 120-horse power.

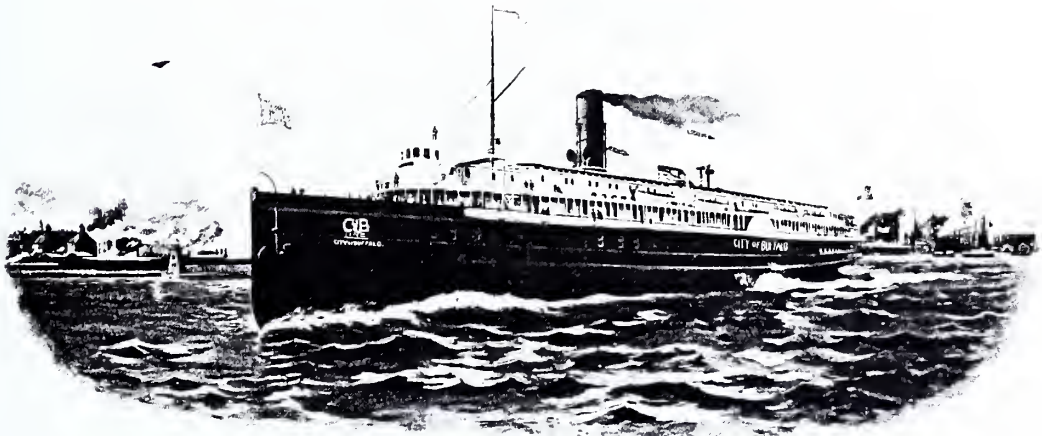
The United States steamer Michigan, of 538 tons, was launched in 1843. She was built entirely of iron, excepting the spar deck, which is of three-and-a-half-inch pine plank; draws 8 feet when ready for a cruise. She is pierced for 12 guns (32-pounders).

In the fall of 1861, Edwin T. Evans, of the Anchor line, contracted with the veteran shipbuilder, David Bell, for an iron pro-





STEAMER CORONA.

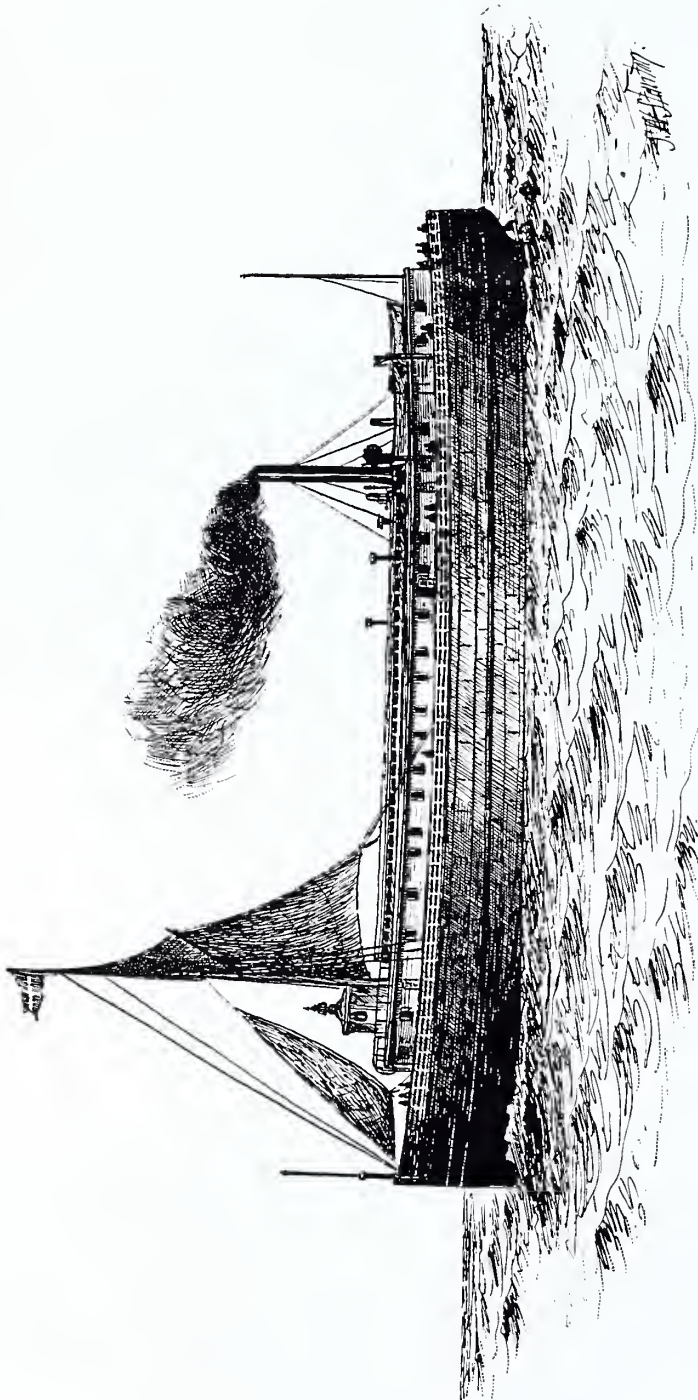


PASSENGER STEAMER CITY OF BUFFALO.









From "*American Steam Vessels*," Copyright 1895, by Smith & Stanton.

PROPELLER MERCHANT.

First iron propeller on Great Lakes. Built at Buffalo in 1862; length 200 feet; beam 29 feet; tonnage 861; wrecked at Racine, 1875.

pellor, 190 feet long, 29 feet beam, 14 feet hold, and 650 tons burthen to be built at Buffalo. This was the first iron merchant boat built on the lakes, and cost about \$60,000. This vessel, the *Merchant*, was a screw steamer of about 200 feet length, and her dead-weight ability equalled about 700 tons. After a successful career of about twenty years, the *Merchant* was wrecked on Racine reef, Lake Michigan, and became a total loss. Her machinery was recovered and placed in the steam barge *A. L. Hopkins*, built at Marine City.

In 1868 the Anchor line built at Buffalo the steamer *Philadelphia*, of about 1,600 tons capacity, which was lost by collision with the steel steamer *Albany* off Point aux Barques, Lake Huron, in 1893, both steamers going to the bottom in deep water. Other steamers built by the Anchor line between 1871 and 1873 were the *Alaska*, *Arabia*, *India*, *China*, *Japan*, *Java*, *Cuba*, *Russia* and *Scotia*. All of these were built at Buffalo. The *Java*, *Cuba*, *Russia* and *Scotia* were twin-screw steamers.

The steamer *Onoko*, 282 feet long, is one of the most remarkable steamers on the lakes, notwithstanding she is of the canal-boat style of naval architecture. She has run on the lakes for sixteen seasons, and has earned money enough to load her down. For ten of the sixteen years that she has run she carried the largest cargoes of any boat afloat on fresh water, and has had business in ore at \$3 per ton, and wheat from Port Arthur at 14 cents per bushel. She was the first of the modern iron freighters.

Less than ten years ago the iron steamer *Onoko* was pointed out by marine men as being a marvel. She carried the largest cargo of any ship on the lakes—110,000 bushels of corn. In 1897 the schooner *Amazon* carried out of South Chicago 230,000 bushels of corn, and nothing was thought of it. Every year has seen an average growth of from ten to twenty feet in the length of vessels, with a corresponding increase in the beam and depth. At every advance vesselmen said the boats were as big as they could be economically handled, but generally the next contract showed them

to be mistaken. In 1897 it was announced that the Zenith Transportation Company, of Duluth, had given an order for a steamer 450 feet long to the Cleveland Shipbuilding Company; old-time vesselmen again said it was the limit of size for a successful lake carrier. The Bessemer Steamship Company has since added 25 feet.

The prediction that within ten years 600-foot vessels will be built on the lakes is made by the *Detroit Free Press*. Experiments are being made with a central arch of steel running fore and aft, as it is in the length not width that weakness is shown in a seaway. Then it is thought that girders will be so changed in position and composition as to give greater strength, and that strakes will not only be made stronger but better fastened as the method improves with experiment. The limit as to depth is certainly reached now, though fifty-five feet, and even a little greater, may be attained in width. Therefore it would be necessary to introduce the arch and other means of strengthening. Not only the seas but the action of the engine gives the long hull the snake-like motion that is plainly perceptible if one stands at the after end and look towards the bow. A steel arch, running amidships the length of the vessel, and well braced, would so strengthen the modern steel vessel hull as to allow of the 550-foot length and greater, and at the same time not handicap the vessel with dead weight, giving it great draught when with light cargo.

For ten years past it had been impossible to get a strictly modern boat on the lakes. Size and style changed between the laying of the keel and the launching of the ship. Nowhere in the world has the progress in marine architecture been so pronounced as on the Great Lakes, where a greater tonnage was launched in 1896 than in all the rest of the United States.

Three years ago the biggest load ever carried on the lakes was about 4,000 tons, and it was a year before such loads became common. Two years ago came the first 5,000-ton vessel, and it was supposed the limit had been reached. In a year the lakes were dotted with vessels that carried

over 5,000 tons, and this season there are half a dozen that load over 6,000 tons. Six years ago the 2,500-ton freighters of the Great Northern road were leaders in size and equipment. To-day such ships are back numbers, though most efficient vessels. There never has been a time when nor a waterway where progress has been so rapid as in the past half dozen years on the Great Lakes.

*Development of the Barge.*—In a recent address, President Richmond of the Buffalo Board of Trade said: "No longer ago than 1850 the most spacious propeller on the Great Lakes could carry only 600 tons. Gradually the size has been enlarged. In 1861 the modern and economical system of transportation in barges on the Great Lakes is said to have been first introduced. Its result has been a wonderful reduction in the cost of freightage. It was first used in the lumber trade, where it was highly successful, and now nearly all the lumber brought to Buffalo and Tonawanda is carried in barges, in lines of four, five and six, towed by propellers or steam tugs. Thus a million and a half or two million feet are brought in one tow. It was not until 1871 that the use of a propeller with one barge attached for the carriage of grain on the Great Lakes was first introduced. It may be said to have revolutionized the business. Large numbers of tows, each consisting of propeller and its consort and carrying from 100,000 to 120,000 bushels, were subsequently employed."

*The Whalebacks.*—About 1889 a new style of vessels began to make its appearance on the Great Lakes, and quite a number of them have since been built. They are known as the "whale-backs." About nineteen were turned out during the seasons of 1889 and 1890 by the American Steel Barge Company, and eleven were built in 1891. The construction of this type of vessel has been less rapid during the past several years.

The greatest whaleback ever designed was launched June 25, 1898, for the American Steel Barge Company, at the West Superior (Wis.) shipyard. She is 430 feet long, 414 feet on the keel, 50 feet beam, and 27 feet deep, with a capacity of about

8,000 tons, on 18 feet draught. It embodies all the latest ideas of its owners.

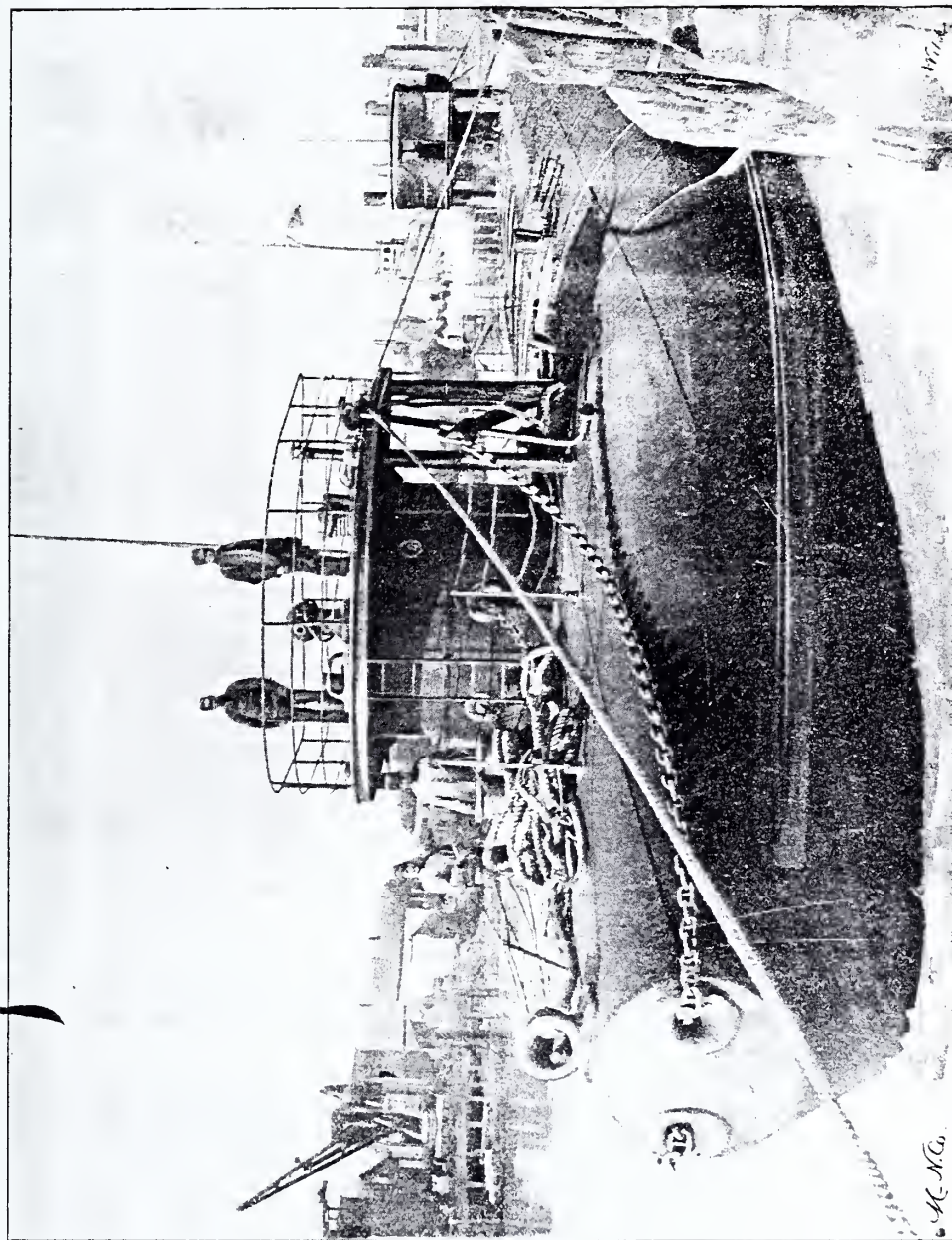
One of the features of the latest whaleback is deck lighting, by means of arc lights similar to those used in lighting the streets. Another is the building of a pilothouse near the bows, abaft the turret. The original plan in the whaleback was to build the pilothouse above the engineroom, just in front of the smokestack.

The largest boat ever constructed for the lake service is the Moose, for the Bessemer Steel Company, built this year, at West Bay City, Mich., in the yards of F. W. Wheeler & Co. It is 475 feet long, 452 feet keel, 50 feet beam, and 28 feet deep. All of the latest steam appliances have been placed in this steamer; but, as is the case with the rest of the steamers of the Bessemer fleet, nothing in the shape of luxury of appointments will be provided. These boats are made without regard for beauty of line, but are built for carrying large cargoes.

*Other new types of vessels* have recently been built for special purposes. Car ferries on Lake Michigan, ice crushers at the straits, steel canal boats on Lake Erie have been among the number.

The appearance of the first fleet of steel canal boats on the Great Lakes and the Erie canal was due to an investigation by the Cleveland Chamber of Commerce, which revealed the fact that the poor showing by the manufacturers of that city in the East was due to their inability to compete in Eastern markets on account of the heavy freight charges. It was found that the reason Buffalo had better freight rates was due to the competition of the Erie canal from that city to New York. Charles E. Wheeler, the Superintendent of Transportation of the Chamber of Commerce, suggested the building of a fleet of steel boats to take freight through without transfer, from Cleveland to New York. Great prejudice was found along the canal against such a project, as it was claimed that the rocky bottom would seriously injure the steel vessels, and that no canal boat could weather the storms of Lake Erie. The first fleet, constructed in 1895, set at rest all doubts as to the fitness of steel boats for





STEEL BARGE No. 103.



the service. This fleet consisted of a steamer and five consorts, all being 98 feet long, 17 feet 10 inches wide, and 10 feet deep. The steamer is driven by a fore-and-aft compound engine of 120 horse-power, and carries 125 tons of freight, while the consorts carry 230 tons each. The first trip was made in August, 1895, with a cargo of rails for the New York street railways.

In January, 1896, a further addition to this steel fleet was contracted for, consisting of three steamers and ten consorts. They were the same breadth and length as the first ones, but were made two feet deeper with a view to utilizing the increased depth of two feet of water in the canal.

During the season of 1897 the company brought to Cleveland 90,000 barrels of sugar, their cargoes east-bound consisting of grain, nails and miscellaneous merchandise, and in 1897 including the four large rudder frames for the United States men-of-war Kearsarge, Alabama, Kentucky and Illinois. It is not the intention of the company at any time to operate west of Lake Erie, as manifestly there is a point where the large tonnage of the big boats, plus their speed, will be more remunerative than the use of the small boats in spite of the advantage of non-transfer. The theory of the company has been that this service could be successfully operated from points on the south shore of Lake Erie as far west, probably, as Detroit. During 1897 the canal boats went to Toledo, and the company would not hesitate to inaugurate a service from Toledo or Detroit, were not abundant business offered to them at Cleveland.

The boats in general outline resemble the ordinary wooden canal boat, and the first fleet was constructed by the Globe Works of this city, and the rest of the boats by the Crescent Ship Yard of Elizabethport, New Jersey.

*Car Ferries.*—In recent years the volume of winter business in grain, flour and general merchandise conveyed across Lake Michigan on car ferries has grown to very large proportions. In the winter of 1895-96 there were 10 steamers engaged in this

traffic. In the winter of 1896-97 18 steamers and car ferries. There are now in operation on the lakes 23 car ferries, most of them on Lake Michigan. Of these, 14 are high-power steam ice crushers, and two of these, the Ignace at the straits of Mackinaw, and the Marquette, owned by the F. & P. M. Ry., are of the largest craft of the kind in the world. These car ferry lines are owned chiefly by the connecting railroads.

The Ann Arbor road operates two steamers with 48-cars capacity, from Frankfort, Mich., to Gladstone and Menominee, Mich., and to Kewaunee and Manitowoc, Wis.; the F. & P. M. Transportation Company operates one steamer with 30-cars capacity, from Ludington to Manitowoc; the Chicago & West Michigan Railway one of 26-cars capacity, from Milwaukee to Muskegon; the Lake Michigan C. F. Transportation Company operates 9 floats and 3 tugs, with a capacity 117 cars, from South Chicago to Peshtigo, and from Manitowoc to Benton Harbor; the Michigan Central 3, the Grand Trunk 2, and the Canadian Pacific 2, between Detroit and Windsor; the Michigan Central 2, between Mackinaw and St. Ignace; the Michigan & Ohio C. F. Transportation Company 2 floats between Sandusky and Detroit; the United States & Ontario Steam Navigation Company 1 between Conneaut Harbor, Ohio, and Port Dover, Ontario.

The combined capacity of the 14 steam vessels is 287 cars, while the 9 barges or floats, which are towed by large tugs, can move 145 cars. The capacity of the 23 ferries is 432 cars.

The Marquette, operated by the F. & P. M. Transportation Company, was built in 1896 by W. F. Wheeler & Co., of West Bay City, and cost \$300,000. Her length between perpendiculars is 331 feet, her overall length 350 feet, beam 56 feet, depth below main deck 19½ feet, depth from upper deck to floor 37 feet. The steel frames and plating extend from bilge to upper deck, and the main and upper decks also are of steel. Over 2,700 tons of steel were used in her construction. The bow of the new steamer is double-plated with ¾-inch plates for a distance of 30 feet abaft the stem, and



this double plating extends three feet above the load line. To resist the great pressure of ice shoves, channel beams thoroughly secured both vertically and horizontally span the hull at close intervals about midway between the floor and main deck. The hull has six water-tight compartments but no water-bottom. A shield of forged steel affords protection for the rudder, and the shafting of the two after wheels is housed in.

The steamer has three fore-and-aft compound engines of equal power each, with 24- and 48 inch cylinders and 36-inch stroke. One of these engines works the bow wheel, the other two the stern wheels. Steam is furnished by four boilers, each 13½ feet in diameter and 12 feet long. The wheels are of steel, the two aft of 11 feet and the forward one 9½ feet diameter. The upper works embrace a cabin with accommodations for twenty-five passengers in connection with the pilot house, texas, etc., and a house abaft the smoke stacks to provide quarters for the crew. The steamer carries thirty loaded cars and 200 tons of coal on a draught not to exceed 13 feet.

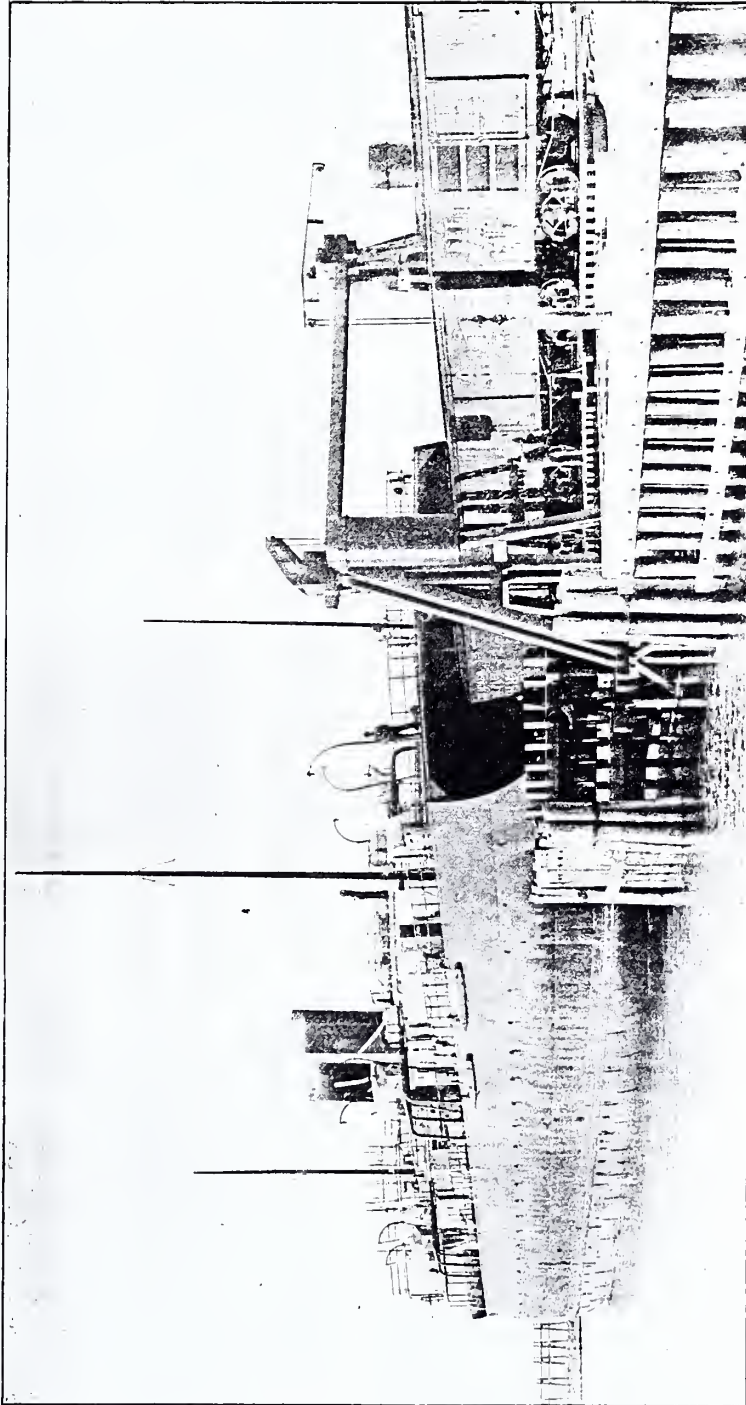
*Steel Canal Boats.*—A new type of vessel, which first appeared on the lakes in 1895, was a fleet of six steel canal boats, one propeller and five barges. They were built at Cleveland for service between that port and New York via the Erie canal. In general outline they resemble the ordinary wooden canal boat. They have been frequently caught in gales on Lake Erie, and their efficiency has often been demonstrated. In November, 1896, the fleet encountered a storm off Dunkirk, and anchored 10 miles from shore in the teeth of a gale blowing 72 miles per hour. The company's fleet now numbers 4 propellers and 15 consorts. They averaged during 1897 one trip more per season through the Erie canal than any of the boats running between Buffalo and New York. The boats are 98 feet long, 17 feet 10 inches wide and 10 feet deep. One vessel and three consorts carries about 1,000 tons of freight.

*A Horse Ferry Boat.*—In 1844 the Privat Brothers, at Toronto, purchased a vessel, which had been running on the Niagara river below the Falls, to ply for passengers

between Toronto and the Island. This vessel they named the Peninsula Packet, and placed in command of Louis Joseph Privat. But few if any of those who took passage upon this vessel ever knew or cared for its name, every one calling it the "horse boat." She was 60 feet long and 23 feet wide, and was a side-wheeler. These wheels were made to revolve by two horses, which trod on a circular table, set flush with the deck in the center, and revolved upon rollers, which being connected with the shaft set the wheels in motion. The horses remained stationary on the deck, the table on which they trod revolving under them, and being furnished with ridges of wood, radiating like spokes from the center, and which the horses caught with their feet, thus setting the tables in motion. After two years an alteration was made in the construction of the propelling apparatus, and instead of two horses there were five placed on the revolving table, except that the table itself did not now revolve, the horses going round and round the deck, in precisely the same manner as in the old-style threshing-machine horse power. This vessel served the purpose of a ferry boat until 1850, when she was taken off the route.

At this time Louis Joseph Privat built a steamer called the Victoria, having an engine of twenty-five horse power, and ran her as a ferry boat from Robert Maitland's wharf at the foot of Church street, every hour from 10 A. M. to 7 P. M., until the end of the season of 1853, when he sold her to George Tate, then superintendent of the Grand Trunk railroad, who ran her until the fall of 1855; this was in Toronto, Canada.

*The Old Ferry at Black Rock.*—Historical reading furnishes information that a ferry was maintained over the waters of Niagara river at Black Rock at quite an early date, even in the days of the Revolution. This is believed to have been the first ferry established on western waters above the great cataract, unless there was one earlier on the Detroit river, a locality early in evidence. For a ferry landing on the American side of the river was the historic "black rock," whale-like projecting



STEEL CAR FERRY PERE MARQUETTE.  
Capacity 30 Loaded Freight Cars.





its sable back above the sand surface on shore, and then penetrating its flat top, 100 feet wide, into the river 100 feet or more, with its surface 4 feet above the water, thus constituting an excellent landing place for the bateaux of the early voyagers, and subsequently an enduring wharf, the first in lake commerce and one never out of repair.

Here in 1679 was that intrepid explorer of unknown lands and waters, amid savage life, described as a "blue-eyed, fair faced, ringletted cavalier, fitted to grace the salons of Paris," Robert de La Salle, with his well-formed little vessel, *Le Griffon*, with 33 Frenchmen and one Italian and seven little brass cannon on board, making repeated attempts to stem the rapids that he might proceed—he didn't know where.

In 1800 one O'Neil ran the ferry, making landings at the rock, and living in a log hut standing adjacent thereto, and serving a double purpose, or paying a double debt, being both a ferry-house and a residence. The boats were scows, propelled by sweeps in 1806, when Major Frederick Miller, father of the deceased navigator of that name, took the ferry and operated it until 1812, when for a time it was discontinued in deference to the war. Then the ferry boats were seized and taken to Canada by a raiding party of the enemy, but were soon retaken by the Americans, and before the end of 1813 they were again on duty, managed by an American, named Lester Brace. Mr. Brace retained an interest in the ferry until 1821, except for an interval when it was run by Asa Stanard, father of the former lake captains, Charles C. and Benjamin Stanard. In 1826 the ferry was operated by Lester Brace and Donald Fraser, who placed a horse-power boat on the service. Asa Stanard was an early builder of lake shipping, having a yard at Block Rock prior to 1812. The machinery of the horse boat consisted of a horizontal wheel the width of the boat, the horsetreading at the sides. This was the second horse-power boat ever operated, the first being on the Hudson river at Albany. The horse boat was continued until 1840, when James Haggart placed a steamboat in service.

*Ferries at Detroit.*—The following ac-

count of the car ferries at Detroit appeared in the *Marine Review*: It was in the year 1825 that the first boat was put on the river to ply regularly between Detroit and Windsor. She was a scow-constructed craft named *Olive Branch*. She had been purchased in Cleveland by D. C. McKinstry and Capt. John Burtiss, and had formerly been propelled by horses. An advertisement published at the time cited that she would be used for the purpose of "transporting wagons, horses, cattle and passengers across the Detroit river." Her landing on the American side was at Dorr & Jones' dock, and on the Canada side at a wharf built by McKinstry & Burtiss, directly opposite. Prior to this the traffic across the river had been carried on by small boats and scows. This mode of conveyance continued until 1830, when Captain Burtiss had a steamer constructed named the *Argo*, the hull being a large dug-out, or canoe, which was severed in twain fore and aft, spread apart and decked over, side wheels being added. She was built by Shadrack Jenkins, and continued to ply in the ferry service until 1834, when a rival made her appearance, named *Lady of the Lake*. The *Argo* fell into the hands of Louis Davenport in 1832, and in 1836 he brought out the high-pressure steamer *United*, a craft of 71 tons burden. It is said that her exhaust gave out such a peculiar sound that it could be heard for miles in clear weather. The *United* continued on the route until 1853, when she was enlarged and converted into a wood barge, in which trade she remained until 1879, when she was sunk by collision near St. Clair Flats, after having been in service 43 years.

The *Alliance* came on the route in the spring of 1842, and a few years later her name was changed to *Undine*. The steamer *Argo* No. 2 followed in 1848, but soon after her advent she exploded, killing her master, Captain Foster, and several others. After being rebuilt she was under the command of Capt. W. Clinton (father of Capt. W. R. Clinton), for several years, and later was sailed by Capt. James Forbes, until 1872, when she was taken off the route, having

plied in that service twenty-four years. In 1852 Dr. Russell, of Detroit, had the steamer *Ottawa* built. She was of 300 tons burden, and was first sailed by Capt. W. R. Clinton and afterward by Capt. A. H. Mills, the veteran tug man. She was sold to parties in Toledo, where she again served as a ferry steamer and spent the residue of her days on the Maumee.

The side-wheel steamer *Gem*, which was built for W. P. Campbell, of Detroit, came out in 1856. She was only 50 tons burden and was of less size than nearly all that had preceded her on the route. After plying a short time between Gibraltar and Detroit, she was placed on ferry service between Detroit and Windsor. A short time prior to this period the steamer *Mohawk* had been engaged and was sailed on the route by Captain Chilvers. This boat had something of a history. She was built of iron at Kingston in 1842 for the British Government service as a lake revenue steamer. She was finally changed to a passenger boat, and was lost on Lake Huron in 1868. The *Windsor*, 223 tons, was built in 1856, and was put into the ferry service. In the spring of 1866 she was chartered by the Detroit & Milwaukee Railroad Company for the purpose of conveying passengers and freight to and from Windsor. On the morning of April 23 she took fire and thirty lives were lost. She was so badly damaged in hull and machinery as to render her unfit for further use as a ferry boat. Subsequently she was rebuilt, the machinery taken out and the hull made a tow barge. She was finally taken to Lake Michigan.

The steamer *Essex* was built in 1859 at Walkerville, above Windsor. She plied on the ferry route for several years. She lay submerged at Walkerville for some time, and was finally purchased by parties on the river St. Clair and used as a ferry between Courtwright and St. Clair. Other boats that served on the route for transient periods were built for other purposes. The *Detroit* was built at Algonac in 1864. In September, 1875, she was destroyed by fire at Sandwich. The *Hope* was built and came on the route in 1870. She was later changed into a screw propeller.

Up to this time the ferry boats had been of the side-wheel class, and during severe winter weather were incapable of forcing a passage through the ice, and consequently were compelled to lay up at intervals. Early in 1872 Capt. W. R. Clinton designed and built the *Victoria*, which, as he expressed it, "would go through or over the ice, irrespective of thickness," to be propelled by a screw wheel. When put to the test the Captain's expectations were realized. As a ferry steamer she was a success and of remarkable speed. Not infrequently has she gone to the relief of the large railway steamers when ice-bound. The *Victoria* is of 192 tons burden, and is now owned by the Detroit, Belle Isle & Windsor Ferry Company. In 1875 Capt. W. P. Campbell had the steamer *Fortune* built. She was 199 tons burden, cost \$25,000, and was constructed much after the style of the *Victoria*.

After the incorporation of the present ferry company, operating between Detroit and Windsor, the *Excelsior*, 229 tons, was constructed, followed in 1880 by the *Garland*, 246 tons. The *Victoria*, *Fortune*, *Excelsior* and *Garland* were built by the Detroit Dry Dock Company.

*Evolution of the Lake Carrier.*—An interesting address on "The Lake Marine" was delivered early in 1897 by B. L. Pennington, of Cleveland, before the Ohio State Board of Commerce. Mr. Pennington sketched the marvelous evolution of the lake carrier, and the effect of the increased capacity upon freight rates, as well as upon commerce generally. Speaking of the lake vessel he said: "The growth of the lake tonnage, for the most part, has kept pace with the industrial development of that vast region, and this development has expanded with the increase of population throughout the United States—the augmentation of capital—the growth of manufacturers—the multiplying wants of a higher and yet higher civilization and the enlargement of our trade with foreign countries.

"For the foregoing reasons the gradual growth of the lake marine, from the time the first little sail craft was put afloat, is shown to have been an inevitable and nat-

ural evolution. The lake marine had its simple and primitive beginning in the 17th century, though but little development accrued until the 19th, after the advent of steam navigation. Lake Ontario was first to be honored. From the birch bark canoe of the savage to the small sloop or schooner with canvas, there was simple evolution.

"In 1818 the marine fleet of Lake Ontario numbered sixty vessels—fifty-nine sail vessels and one steamer. In 1816 the whole tonnage of vessels at all Lake Erie ports, including Detroit, was only 2,067 tons—only about half of the register of some of our largest modern steamers. These vessels ranged in size from ten to 134 tons register.

"The subsequent growth of the lake tonnage was more rapid, as well in the size as in the number of crafts put afloat. In 1849 it aggregated about 160,000 tons—value nearly eight million dollars. In 1862 there were 1,502 vessels, 383,000 tons. In 1886 there were 1,997 vessels, 635,000 tons. In 1891 there were 2,125 vessels, 871,000 tons. In 1896 there were about 3,400 vessels and about 1,250,000 tons, value eighty million dollars. So from 1849 to 1896 the value of the fleet increased tenfold. About two-thirds of the present fleet are of steam. Sail vessels have decreased with the increase of steamers and of towing. Most of the craft carrying sails are regularly towed by steamers.

"The greatest evolution has been caused by the metal steamers—largely during the last decade when measures for deeper channels and harbors were inaugurated. The limit to the size of wooden boats had been reached, and metal had grown cheaper.

"The lake marine from its infancy kept pace with the improvements of harbors and the deepening of channels until the advent of metal boats, when the latter set the pace, and are being built in length and loaded draught much beyond the immediate ability of most of the narrow and shoal harbors and antiquated cargo-handling plants to properly care for them. Improvements of these are projected and are coming slowly.

"As a majority of the lake craft, however, are small, comparatively speaking, and

are able to carry full loads into all the harbors as they now are, the incentive for immediate improvements will not be so moving. Meanwhile the smaller craft will continue a necessity and remain an important minority of the lake marine."

#### CANADA'S MERCHANT MARINE.

There has been a slow but steady growth in the number and tonnage of the Canadian vessels upon the Great Lakes system. Nearly all the Canadian vessels engaged in the lake trade are owned in the Province of Ontario. The following statement shows the number of vessels and number of tons on the registry books of the Dominion of Canada for the Province of Ontario on December 31 in each year from 1873 to 1897, both inclusive, and therefore fairly represents Canada's merchant shipping on the lakes.

YEAR	VESSELS	TONS
1873.....	681	89,111
1874.....	815	113,008
1875.....	825	114,990
1876.....	889	123,947
1877.....	926	131,761
1878.....	958	135,440
1879.....	1,006	136,987
1880.....	1,042	137,481
1881.....	1,081	139,998
1882.....	1,112	137,061
1883.....	1,133	140,972
1884.....	1,184	142,387
1885.....	1,223	144,487
1886.....	1,248	140,929
1887.....	1,275	139,548
1888.....	1,330	139,502
1889.....	1,352	141,839
1890.....	1,312	138,738
1891.....	1,345	138,914
1892.....	1,347	141,750
1893.....	1,370	146,665
1894.....	1,480	148,525
1895.....	1,508	148,669
1896.....	1,525	146,522
1897.....	1,424	135,349

The tonnage of 1898 was apportioned among the ports as follows: Amherstburg, 121; Belleville, 893; Bowmanville, 752; Brockville, 203; Chatham, 1,518; Chippewa, 153; Cobourg, 311; Collingwood, 5,483; Cornwall, 162; Cramahe, 278; Deseronto, 1,412; Dunnville, 57; Goderich, 1,825;



Hamilton, 5,095; Kingston, 23,393; Morrisburg, 382; Napanee, 122; Oakville, 323; Ottawa, 25,411; Owen Sound, 4,332; Picton, 2,054; Port Arthur, 2,004; Port Burwell, 450; Port Colborne, 681; Port Dover, 691; Port Hope, 5,512; Port Rowan, 491; Port Stanley, 739; Prescott, 6,175; Sarnia, 7,091; Saugeen, 328; Sault Ste. Marie, 970; St. Catharines, 13,427; Toronto, 14,655; Wallaceburg, 2,032; Whitby, 514; Windsor, 5,309.

*New Canadian Vessels.*—New vessels built and registered in the province of Ontario from 1874 to 1897, inclusive, have been as follows:

YEAR	NO.	TONNAGE	YEAR	NO.	TONNAGE
1874.....	50	10,797	1886....	52	2,075
1875.....	53	7,760	1887....	66	2,993
1876.....	47	5,397	1888....	62	5,095
1877.....	28	3,316	1889....	45	3,259
1878.....	30	2,409	1890....	41	4,917
1879.....	42	2,462	1891....	44	2,662
1880.....	44	3,610	1892....	34	3,684
1881.....	54	5,111	1893....	49	4,126
1882.....	55	4,369	1894....	64	3,137
1883.....	34	4,311	1895....	52	3,732
1884.....	58	4,446	1896....	38	1,757
1885.....	45	4,509	1897....	50	3,850

Among the Canadian shipbuilders may be mentioned the Hamilton Bridge Company, of Hamilton, Ont., the Bertram Engine Works Company and the Polson Iron Works, of Toronto—all builders of steel vessels; the Collingwood Dry Dock Company, of Collingwood; A. W. Hepburn, of Picton, Ont.; Montreal Transportation Company, of Kingston, Ont.; John Simpson, of Owen Sound, Ont.; and Melancthon Simpson, of Toronto.

The Polson Iron Works were established in 1883 by William and F. B. Polson, but did not begin shipbuilding until 1889 when on Owen Sound they constructed for the Canadian Pacific railroad the steel steamer Manitoba. Later they built other vessels at Owen Sound, and in 1894 moved their plant to Toronto.

L. Shickluna was at one time one of the most prominent shipbuilders on Lake Ontario. He was located at St. Catharines,

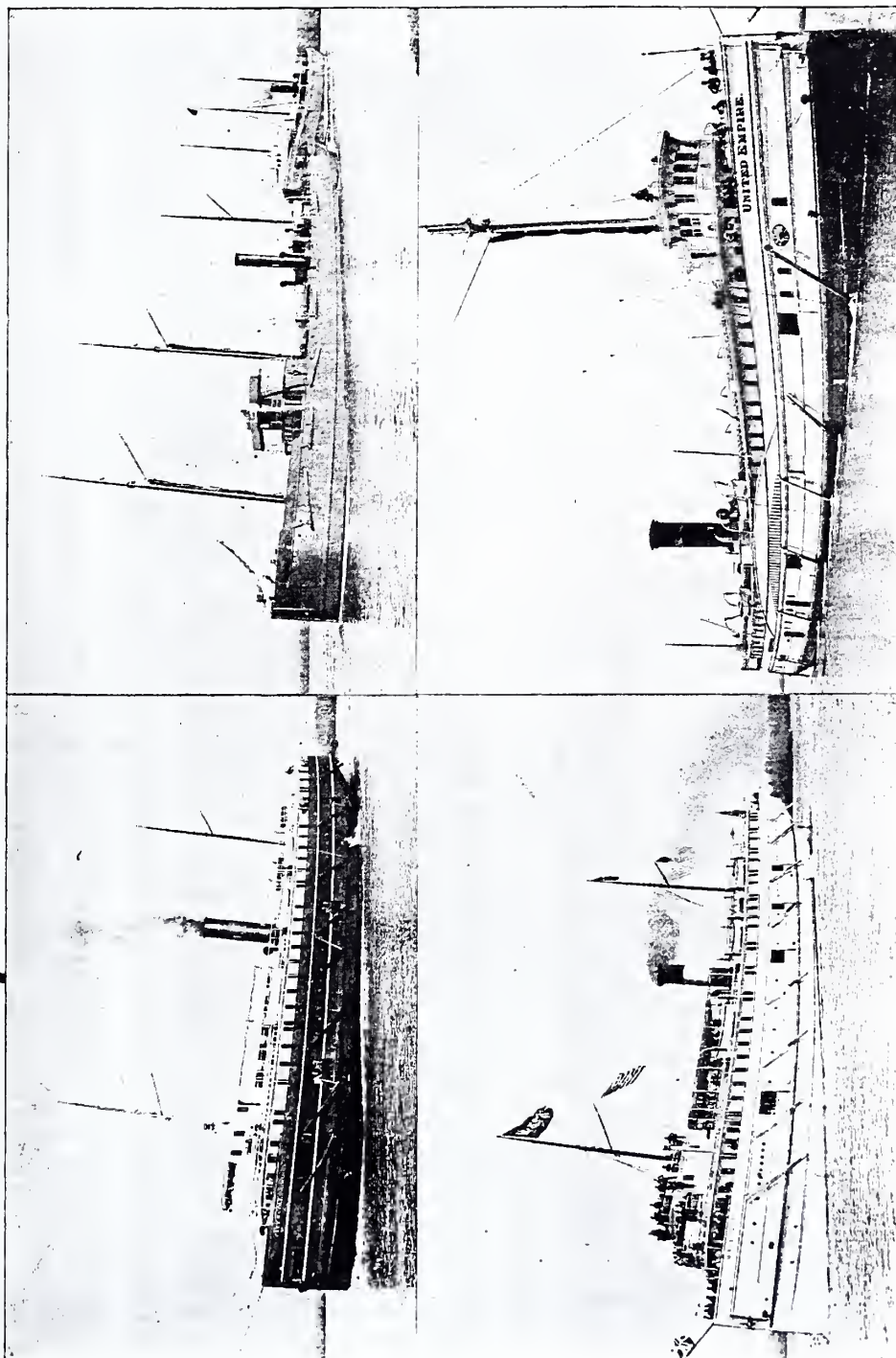
where for many years he carried on a successful business.

#### SHIP BUILDING.

An extended sketch of ship building will not be attempted in this connection, nor would it be desirable; but brief allusion may properly be made to the successive stages by which the construction of the merchant marine of the Great Lakes has advanced. In early times, when the demand for vessels existed, ship yards sprang up in various parts of the Great Lakes system. During the early part of the war of 1812 there was no merchant ship building carried on on the lakes. The British had the entire control of these waters. After the battle of Lake Erie goods were shipped to some extent in government vessels, when that could be done. Then afterward when commerce again became safe and free there were but few points along the southern shores of Lake Erie where vessels could go into winter quarters, or where they could be fitted out or repaired for the next season's business. There were, however, a few points, such as Con-ja-quada creek, below Black Rock, and River Rouge, below Detroit, on the United States side, and Moy, Amherstburg and Chippewa creek on the Canadian side. The former of these places was, however, the most popular, as it was easy of access, and such material as was needed could be there most easily obtained. In 1812 it had been made a temporary naval station, and so remained until the arrival of Commodore Perry, when all the supplies, vessels and stores were removed to Erie.

In later years ship and boat building was carried on at Buffalo, Erie, Conneaut, Ashtabula, Fairport, Cleveland, Charleston (Ohio), Vermilion, Huron, Sandusky, Miami, Monroe, Detroit, Mt. Clemens, on the St. Joseph, and several points on the eastern and western shores of Lake Michigan.

Ship building was commenced at Clayton, on Lake Ontario, in 1832, on Washington island by Smith & Merrick, and for several years was carried on briskly, not unfrequently five vessels being on the stocks



GROUP OF CANADIAN LAKE STEAMERS.

City of Collingwood.  
Majestic.

Kosedale.  
United Empire.





at one time, giving employment to 150 or 200 men, and the only limit to the size of the vessels were the locks in the Welland canal. The first vessels built there were the Jessie Smith and Horatio Gates, for Smith & Merrick.

The Union Dry Dock Company, of Buffalo, is famous for possessing and operating the yard where the side-wheel steamer Walk-in-the-Water was built in 1818. At that time the name of the firm was Bidwell & Banta, after which it was changed to Mason & Bidwell, and afterward and until the Union Dry Dock Company was incorporated, in 1870, business was carried on under the name of Taylor & Jewett. This shipyard has been closely identified with the advancement in every stage of vessel building for the inland seas. The predecessors of the Union Dry Dock Company, between 1840 and 1860, constructed many famous and historical craft. The Southern Michigan, Northern Indiana, Western Metropolis, City of Buffalo—all flyers—were built here. The propeller Hercules, built in 1843, was one of the first on the lakes. Between 1844 (when the famous Indian Queen, a noted boat in her day, came out) and 1862, eighteen large side-wheel steamers were built here. At this place, in 1887-88, were constructed the famous steel steamships Owego and Chemung. These two magnificent crafts, each 350 feet in length, are among the largest running on our inland seas. The Tioga, built in 1885, was the first steel steamer constructed on the lakes. The terrific naphtha explosion on board this vessel, at Chicago in 1890, and which would probably have sunk an iron vessel, and certainly burned a wooden one, was confined wholly to the hold aft of the engine.

The Union Dry Dock Company, of Buffalo, was incorporated in 1870, and the yards have been managed under this name ever since. The company has built many fine boats, the first of which was the Newburg, 216 feet in length, built in 1870.

The shipyard of this company originally fronted on Buffalo creek and the City Ship canal, 450 feet on the former and 400 feet on the latter. The fronting on Buffalo

creek has been used for the past fourteen years for the construction of their iron and steel vessels, while their wooden vessels have been built on the canal. In 1892 an exchange was made between this company and the Pennsylvania Coal Company, by which the former secured possession of property up to that time belonging to the latter adjoining their south line, and having a frontage on Buffalo creek of 615 feet. By this exchange the company had in all a frontage on Buffalo creek of nearly 1,100 feet, and here since 1893 their entire ship-building plant has been located.

The officers of this company since 1870 have been as follows: Presidents—S. S. Guthrie, Washington Bullard, John King and E. B. Thomas; superintendents—M. M. Drake, W. I. Babcock and Edward F. W. Gaskin; secretary—A. R. McDonough; treasurers—J. H. Bartow, A. C. Cordes, Arthur Turnbull, A. Donaldson and Edward White.

One of the best known shipbuilders at Cleveland, when wooden ships were constructed, was Thomas Quayle, sometimes called the father of Cleveland shipbuilders. He was born on the Isle of Man, May 9, 1811, and came with his parents to Cleveland in 1827. He finished his apprenticeship as shipbuilder in Cleveland, and then started in business in 1847, with James Cody as partner, the firm continuing for three years. Luther Moses was a partner later, and they had sometimes seven boats on the stocks at once. John Martin succeeded to the firm, and boats built by Quayle & Martin have still a high reputation on the lakes. In one year they built thirteen vessels. In 1874 Mr. Martin died, and the firm was reorganized under the name of Thomas Quayle & Sons, George L. and Thomas E. Quayle being made partners. They built the steamers E. B. Hale, Sparta and the Commodore, the latter being at that time the largest vessel on the lakes. In 1878 they built two boats for the Anchor line, and two, the Buffalo and Chicago, for the Western Transit Company. In 1882 Mr. Quayle retired from business, and the firm was continued as Thomas Quayles' Sons, William E. entering the firm. This firm continued as long as

the wooden shipbuilding industry survived in Cleveland.

*Early Ship Building at Chicago.*—Ship building, according to Capt. Peter F. Flood, was commenced in Chicago in 1835. The *Clarissa* was begun in the spring of 1835, by Nelson R. Norton, but was not completed, or launched, until May 18, 1836. The *Detroit*, Capt. John Crawford, was built at Milwaukee in 1836–37 for the Chicago trade, at a cost of \$50,000. This vessel was lost off Kenosha in November, 1837, after only six months service. About this time (1836) an association of the then young, energetic and enterprising citizens was formed, and they commenced the building of the steamer *James Allen*. It was completed in 1838, Capt. C. H. Case having charge of its construction. The shipyard was on "Goose Island." The *Allen* was built to be fast, and to run across Lake Michigan from St. Joseph to Chicago, in connection with the stage and mail line. Her hull was narrow and sharp in form, and light in material. Two powerful, low-pressure, horizontal engines were put on the guards, on the main deck. The boilers were small, and, on trial, proved to be insufficient. When the *Jim Allen* had steam up and started on her trial trip for St. Joseph, she went out of Chicago at a speed that pleased, as well as astonished, her owner and designer. The first fourteen miles were run inside of an hour. Then the engines began to "slow up," and the voyage took about ten hours. Every effort was made to keep up the supply of steam to the two large engines, but the result was the same as experienced during the outward trip. To use the expression of her commander, she would run the first thirty minutes "like a skeered dog," then her speed would gradually slacken to about seven miles an hour, and nothing could coax her to do any better. For two seasons, notwithstanding the utmost exertions taken, there was no improvement in the *Allen's* average rate of speed, and she was then sold and taken to the lower lakes.

The *George W. Dole* was also built by Captain Case, soon after the completion of the *James Allen*, and the two ran together

over the St. Joseph and Michigan City route. The former was sunk at Buffalo, in 1856, having previously been changed into a sailing vessel. These were the first and only steamers built in Chicago previous to 1842.

In 1842 Capt. James Averell established a shipyard, on the North side, just below Rush street bridge, and very soon after Thomas Lamb commenced business near the same place.

The shipyards of Chicago were now beginning to present unusual signs of activity. In 1845 there were constructed the schooners *Maria Hilliard*, *J. Young Scammon*, and *Ark*; in 1846 the barque *Utica*, brig *Ellen Parker*, and schooner *N. C. Walton*. In 1847 eighty schooners had been, or were being, built, in Chicago, one brig and one propeller—the *A. Rosseter*—a total tonnage of 4,833. Nineteen schooners, one propeller and one brig owned by Chicago people. The leading ship-builders at this time were Jordan, Miller & Conners. The latter afterward formed a partnership with Riordan & Dunn, on the South side, near VanBuren-street bridge. From 1850 the building of vessels at Chicago, and for the Chicago trade, became an important industry.

*The iron ship-building industry* had in 1872 become fairly established at Cleveland and Detroit. The price of iron had fallen sufficiently to make previous experiments successful business enterprises. Buffalo and Milwaukee followed a little later, though with feebler energy. Chicago has developed large steel-ship producing capacity. West Superior has turned out a heavy tonnage, and West Bay City has become one of the most important ship-building plants on the Great Lakes.

"For about four or five years," writes Joseph R. Oldham in "*Cassier's Magazine*," in 1897, "the mean standard dimensions of steamers constructed on these lakes were: length 295 feet, breadth 40 feet, depth 25 feet, and it is remarkable how long ship-owners and shipbuilders hovered about these dimensions; but it was the same elsewhere not many years ago. I remember well when but two types of steamers were gen-

erally constructed in European yards over a period of four or five years. The 'well-deck' type was usually about 250 feet in length, and the flush-deck type was about 300 feet long. The former vessels carried about 2,000 tons, and the latter about 3,500 tons dead weight. Steamers of just about these dimensions kept the seacoast builders engaged for several years.

"The first drastic departure in the building of lake steamers of largely increased dimensions was taken by a young, but enterprising and farseeing, shipowner and merchant of Cleveland. The victory was the result of a careful and courageous calculation of financial probabilities and physical possibilities, and from that inception may the immediately modern evolution in naval architecture on these Great Lakes be dated. So passing over small and timid advances in the way of increased capacities of ships, let us see what the absolute and comparative increase of tonnage amounts to since the season of navigation preceding the advent of the victory.

"If time permitted, it might be interesting to many if the large lake fleets of oak steamers and sailing vessels were dwelt upon, for amongst the best of these may readily be found some of the strongest cargo vessels afloat, and their aggregate tonnage largely exceeds that of the iron and steel steamers; but there is no disguising the fact that metal is rapidly superseding wood as the material of which both large and small craft are being constructed. The paramount reason for this is the rapidity with which wooden vessels decay, whereas iron ships, if kept clean and properly painted, do not rust to a dangerous extent before they become obsolete in design, and valueless as commercial commodities.

"Five years ago there was not a vessel on these lakes that displaced 5,000 tons when floating on the St. Mary's river. Today there are not fewer than twenty high-powered steel screw steamers which displace about 8,500 tons on the same draft of water. This represents an average increase in the carrying capacity of no less than 70 per cent, and the percentage increase in register tonnage is still higher.

Steel cargo steamers, 415 feet in length, and 48 feet in breadth, are now being constructed.

"These dimensions are greater than those of the average modern ocean steamer, though several British cargo steamers are about one hundred feet longer and their depth and draft of water is much greater. The carrying capacity of this new lake fleet will equal 3,500,000 tons of ore, transported from the head of Lake Superior to Lake Erie in one season of navigation."

Early in 1895 the first of the 400-foot vessels, the Victory and the Zenith City, appeared. In 1897 the Bessemer Steamship Company placed contracts with F. W. Wheeler & Company for a steel steamer and two consorts, larger than anything previously built. The steamer is 475 feet over all, 455 feet keel, 50 feet beam and 29 feet deep. She has quadruple expansion engines, cylinders 28, 40, 59 and 85 inches, with 42-inch stroke. Steam is furnished by four Scotch type boilers, allowing 200 pounds working pressure to the square inch. Her water bottom is six feet deep. The schooners are larger than any steamer that has been turned out on the lakes up to the present time, and are the greatest carriers on fresh water. The schooners are 450 feet over all, 435 feet between perpendiculars, 50 feet beam and 28½ feet deep. They have 5½ feet water bottoms, and 2,600 tons of metal were used in the construction of each of the boats. They carry 7,000 gross tons of ore on 17 feet, which makes the carrying capacity of the three boats over 20,000 tons to the trip. The schooners have very heavy towing machines and stockless anchors, fourteen hatches with 24-foot centers. While the new boats are great carriers, they are made as strong as possible without using any unnecessary material.

W. B. Morley and J. J. Hill constitute the shipbuilding firm known as Morley & Hill, located in Marine City, Mich. They have a wide reputation for the construction of staunch, seaworthy vessels, as they build on honor and use the best of material. Messrs. Morley and Hill first associated together for the purpose of shipbuilding at Sodus Point, New York, in the year 1866,



when they rebuilt the schooner *S. P. Johnson*, her name being then changed to *Grace Sherwood*. Their next boat was built in Marine City, where they rented the yard of David Gallagher, with a frontage on Belle river. They soon acquired the yard by purchase. It is 330 feet front on Belle river by 300 feet deep. In 1871 they built the steamer *D. W. Powers*, 303 tons register, and the following year they launched the steamer *Jarvis Lord*, 938 tons. This was the second double-deck steamer ever built on the lakes, and proved to be a good business boat. In 1873 they laid the keel for the steamer *N. K. Fairbanks*, 980 gross tons, but owing to the financial panic of that year she was not completed and launched until August, 1874, and did not go into commission until the spring of 1875.

Then followed the steamer *Morley*, 870 tons register, built in 1879; steamer *A. L. Hopkins*, 757 tons, in 1880; steamer *S. J. Macy*, 548 tons, in 1881; steamer *J. H. Osborne* and the well-known passenger steamer *Mary*, noted for her speed and other good qualities in 1882; steamer *New Orleans*, 1,169 tons, in 1885; steamer *Louisiana*, 1,259 tons, in 1887; steamer *W. B. Morley*, 1,469 tons, in 1888, her name being changed to *Caledonia* when sold to Capt. James Corrigan in 1890; steamer *Italia*, 2,036 tons, built to the order of Capt. James Corrigan; steamer *St. Lawrence*, 1,437 tons, in 1890; steamer *J. J. Hill*, 974 gross tons, in 1892. This boat was built for saltwater service, but is still on the lakes. The steamer *W. B. Morley* was the last vessel built by the firm. She was launched in 1892, and is 1,747 gross tons register. The firm owns controlling interest in the steamers *St. Lawrence*, *J. J. Hill* and *W. B. Morley*, which are managed by Capt. C. T. Morley.

There are now on the Great Lakes six immense plants where steel vessels are constructed exclusively, and several others where steel ship building is conducted in connection with other work.

The shipyard of the Detroit Dry Dock Company, at Wyandotte, Mich., is the oldest of the steel plants on the lakes now in operation. It was formed in July, 1872, with a capital of \$300,000. For 20 years

before ship building had been conducted on the Wyandotte site of the company's plant. Campbell & Company, in 1852, launched the first large vessel there. Mr. Owen ten years later became a partner, and in 1870 Capt. S. R. Kirby succeeded to the Campbell interest. In 1877 a small plant at Wyandotte which for five years had been operated by Capt. Eber Ward, was absorbed by the Dry Dock Company.

During the 26 years of its existence the Detroit Dry Dock Company has constructed about 125 vessels, with a tonnage aggregating 140,000. In 1880 the company began the construction of iron steamers. It has built many of the finest passenger boats on the lakes. The present officers of the company are: Hugh McMillan, president; Alexander McVittie, vice-president; Gilbert N. McMillan, secretary and treasurer; Frank E. Kirby, engineer.

The Globe Iron Works Company grew from a small beginning. In 1869 Robert Wallace, John F. Pankhurst, John B. Cowle and Henry D. Coffinberry became interested in a machine shop and foundry on Center street, Cleveland, then known by the firm name of Sanderson & Co. In time the foundry burned down and was replaced with a brick building. The wooden buildings which housed the machine shops became gradually unfit for use, and a fine three-story brick building was erected to take their place. This structure, much enlarged and extended, remains standing.

About this time Stevens & Presley, who had for many years operated a marine railway on the Old River bed, were induced to commence the construction of a dry dock on their property. Because of financial difficulties they were unable to finish the work, and the proprietors of the Globe Iron Works purchased a half-interest in the uncompleted enterprise. This concern is now known as the Cleveland Dry Dock Company, and has proved a highly successful venture.

The Globe Iron Works gradually embarked in the business of ship building. They constructed a number of steam and sailing vessels and tugs, being the first firm in Cleveland to contract to deliver a vessel

ready for sea. Previous to this time it had been customary for one contract to be made for the hull of a vessel, one for the cabin, one for the rigging, another for the fittings, etc. The first contract for a complete vessel was made with the Republic Iron Company for a steamer which was named the Republic, two other steamers, the Colonial and the Continental, and three consorts being subsequently built for the same company.

The demand for vessels from this yard became so brisk that the original shipyard, near the Globe works, became inadequate, and a new yard was started near the head of the Old River bed. This has grown until to-day it is nearly a quarter of a mile in length, and has stock room for four modern lake carriers at one time.

The market for iron ships expanded, and preparations were made to meet the demand. The new yards were fitted up for the construction of steel boats, and in 1880 the Globe Ship Building Company was organized, with the original partners, Messrs. Wallace, Pankhurst, Coffinberry and Cowle, and John Smith, who was to be the superintendent of the new concern, as incorporators. When everything was ready, there was still lacking the requisite order. A company was formed to build and own the first iron ship to be constructed in Cleveland. The principal stockholders in the company were Philip Minch, I. W. Nicholas, John N. Glidden, George Washington Jones, Capt. William Pringle and the Globe Ship Building Company. The result of this experiment was the stanch steamer Onoko, which is still sailing, and has been very successful.

The first engineer of the Globe Ship Building Company was Norman Wheeler, inventor of the direct acting steam pump. When Mr. Wheeler left the company, J. F. Pankhurst took his place. In 1890 Mr. Wallace, Mr. Coffinberry and Mr. Cowle disposed of their interest in the Globe Iron Works, and a reorganization took place. The new formation left at the Globe Iron Works, as officers, H. M. Hanna, president; John F. Pankhurst, vice-president and general manager; Luther Allen, secretary and treasurer.

In July, 1886, the Globe Iron Works became incorporated under the title of the Globe Iron Works Company with a capital stock of \$500,000, and at the same time absorbed the Globe Shipbuilding Company. Since the organization of this company its facilities have been more than quadrupled, so that it now stands second to but one firm in this country.

The yards of the Globe Company are fully equipped with the most modern appliances for rapid work, one of the notable appliances being a three-legged derrick of 100 tons capacity, steam-driven, for placing boilers and machinery in the new hulls.

From its organization, in 1886, the Globe Iron Works Company has launched about 45 large steel freight steamers; also the handsome twin-screw passenger steamer Virginia, for the Goodrich Transportation Company, of Chicago, to ply between Chicago and Milwaukee; the auxiliary ocean-going yacht Comanche; two lighthouse tenders, one for Portland, Maine, and the other for Portland, Ore.; the revenue cutter Walter Q. Gresham, and the large and magnificent twin-screw steamers North West and North Land for the Northern Steamship Company, for service between Buffalo and Duluth. The total output of vessels built by this company reaches the valuation of over ten million dollars.

One of the highly prosperous institutions along the Old River bed in Cleveland is the Ship Owners Dry Dock Company, with facilities ample for docking the largest vessels on the lakes.

This company was formed in March, 1888, largely through the efforts of the late William H. Radcliffe, whose big shipyards occupied the site now occupied by the dry docks, and who was the first manager of the enterprise. The original officers were Capt. Thomas Wilson, president; M. A. Bradley, vice-president; H. D. Goulder, treasurer; Gustave Cold, secretary, and William H. Radcliffe, manager. George L. Quayle succeeded Mr. Radcliffe as manager. Shortly after the company was formed the construction of the first dry dock was commenced in the spring of 1888. It was completed May 1, 1889, at a cost of

\$100,000. It is 330 feet long by 48 feet wide, and supported by a massive bed of concrete. This dock was extended in 1895 to a total length of 430 feet, the new work being 54 feet wide.

The first dock proving insufficient for the business of the company, the construction of a second dock was begun in September, 1890. This dry dock is 300 feet by 45 feet in dimensions, and also cost \$100,000. There are two 22-inch submerged centrifugal pumps, which will clear Dock No. 1 in two and one-half hours, and Dock No. 2 in 45 minutes. In 1897 this extensive plant was sold to the Globe Iron Works Company, which also controlled the Cleveland Dry Dock Company. These two large dock properties were consolidated under one management in 1898.

*The Cleveland Ship Building Company* was organized in 1886. The company was brought into existence through the efforts of Robert Wallace and Henry D. Coffinberry, who had been active in the management of the Globe Ship Building Company. Among those principally interested in the new concern were Messrs. Wallace and Coffinberry, William Chisholm, J. H. Wade, Valentine Fries, Captain Philip Minch, Mrs. Alva Bradley, Robert R. Rhodes, Mrs. William B. Castle, William M. Fitch, Quincy Miller, Omar N. Steele and Thomas W. Bristow. The establishment of the Cuyahoga Steam Furnace Company, of which the late William B. Castle had been president, was purchased, and operations were commenced on the site of the works of that company, with the yards and works on the Cuyahoga river, and with its general offices on the Superior-street viaduct.

In 1893 H. D. Coffinberry retired from active control, and Robert Wallace was elected to succeed him as president, and James C. Wallace was made vice-president and manager. The board of directors are H. D. Coffinberry, Robert Wallace, James C. Wallace, M. A. Bradley, J. H. Wade, R. R. Rhodes and Valentine Fries. William M. Fitch has been secretary of the company since its organization.

Since August, 1887, when the shipyard

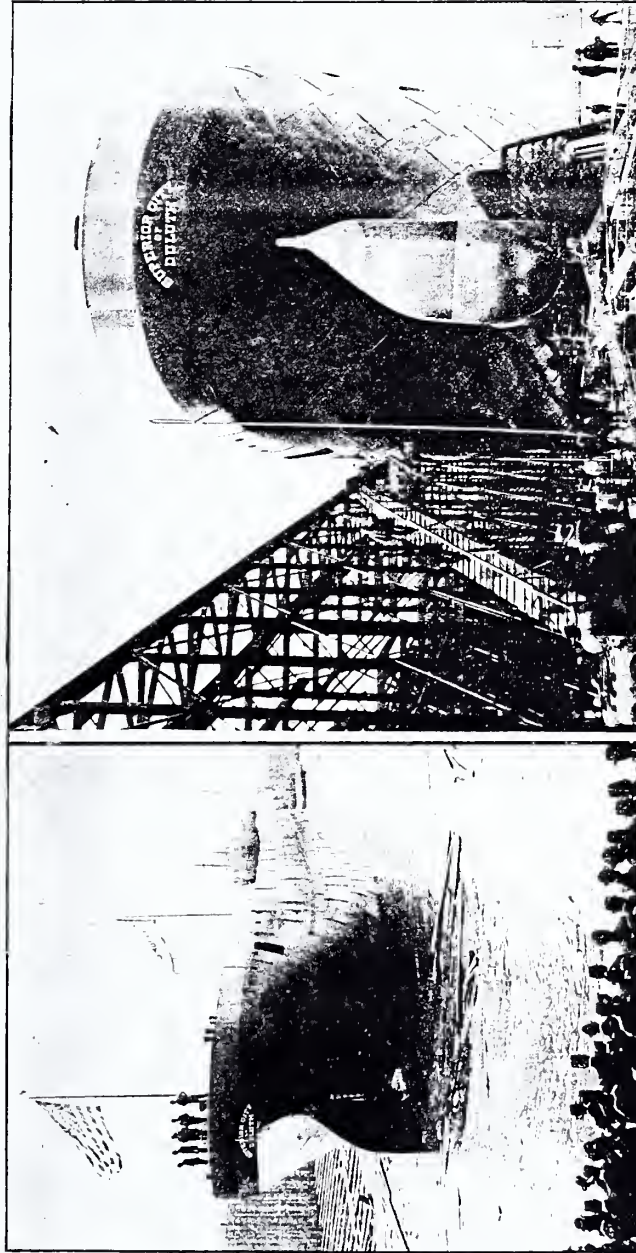
was equipped and made ready for business, it has turned out nearly 30 large steel freighters, besides a number of other craft.

The management of this company began some years since to consider the advisability of enlarging the plant. After careful consideration it was determined to accept a proposition of the citizens of Lorain to donate the company a tract of land comprising about 22 acres, situated on the east side of the Black river, with a water front of 800 feet. Immediately upon the acquisition of this property, steps were taken to put it in the best possible shape for the use to which it was to be devoted.

The facilities which have been created at Lorain, taken in connection with the engine and boiler works at Cleveland, place this company among the largest ship builders of their time. Full preparation for the construction and repair of steel ships have been made. The introduction of electricity and compressed air, and the substitution of locomotives and traveling cranes, does away with much unskilled labor, and at the same time decrease the cost and saves valuable time in the prosecution of work. The water front has been largely increased by dredging two slips, each 500 feet long by 125 feet in width. A dry dock, the largest on the lakes, has been constructed and has been in operation since the winter of 1897-98; its dimensions are: length 560 feet by 102 feet in width, with gates 66 feet and depth of water in sill 17 feet. The large amount of work done at this yard since its opening assures its proprietors that it is to be a business as well as a mechanical success.

*The American Steel Barge Company* of West Superior constructs the peculiarly original type of vessel known as the "whale-back" or monitor invented by Capt. Alexander McDougall. In January, 1889, he interested capitalists, after a life-size model had demonstrated the practical side of the theory. The 101, the first of the monitors, was launched in Duluth, in June, 1887, the ends having been built in Wilmington, Del., and the plates for amidships prepared in Cleveland. All were shipped to the yard in Duluth, and put together





SUPERIOR CITY— BEFORE AND AFTER LAUNCHING.  
First vessel launched from the Lorain shipyard of the Cleveland Ship Building Co.



by Robert Clark. After the organization of the company in New York City, a site for a shipyard was secured on Railroad street, near elevator D, in Duluth, and six other whalebacks followed in quick succession, among them the first steamer Colgate Hoyt.

To accommodate the rapid growth of the shipbuilding industry, in the spring of 1890 the yard at West Superior was established on ground voted to the company by the Northern Steam-ship Company for that purpose. The entire business was transferred to the new yard, and improved plant purchased and work continued on a large scale. The first whaleback launched at the new yard was the steamer Joseph L. Colby. The most famous of the whalebacks constructed at the West Superior yard is the passenger steamer Christopher Columbus. Her keel was laid on September 6, 1892, and she was launched December 3, occupying less than three months in construction. She was taken to Chicago, put into the passenger business, and at once became a favorite with the visitors at the World's Fair in 1893, carrying nearly two million people without the loss of a single life.

During the ten years the American Steel Barge Company has been in existence, it has built fifty vessels of all classes, two of which were built at Brooklyn, N. Y., for the Atlantic coasting trade, one steamer at the company's yard at Everett, Wash., and named in honor of that city, which was put into the trade on the Pacific coast, one in England now running to the Black Sea, the others being built at Duluth and West Superior. The steamer Alexander McDougall, launched June 25, 1898, is the largest of the whaleback type. She is 430 feet over all, 414 feet keel, 50 feet breadth of beam, and 27 feet molded depth, with a carrying capacity of about 8,000 tons on 18 feet draught. A straight stem has taken the place of the spoon bow or pig nose of the other vessels constructed at this yard. Her engines are quadruple expansion, the cylinders being 19, 28½, 28 and 66 by 40 inches stroke.

The company has constructed fifty vessels of all classes, with a total carrying capacity of 143,650 tons on 16 feet draught.

In a season the fleet could carry 2,585,700 net tons, or 86,976,648 bushels of wheat.

The shipyard is equipped with the best modern steel plant, including hoisting and conveying machinery for the heaviest class of work, a machine shop for the construction of the largest marine engines, power being furnished by steam, electricity and compressed air. There are five slips with double berths, enabling the company to construct twelve ships at one time, and give employment to from 700 to 1,500 workmen. The dry dock is the largest on the lakes, and will accommodate vessels of 540 feet, and a new dock is under consideration to accommodate vessels of 600 feet. Colgate Hoyt is president of the company.

*F. W. Wheeler & Co.* have for years conducted at West Bay City, Mich., one of the most important shipbuilding plants on the Great Lakes. The firm name was established in 1876 by a partnership formed between F. W. Wheeler and his father Chesley Wheeler, who had formerly for many years engaged in ship building in New York State and at Saginaw, Mich. The enterprise was modest in its inception, devoted largely to repair work. In 1877 the first boat was launched, the passenger steamer Mary Martini. In 1889 the firm of F. W. Wheeler & Co. was incorporated with a capital stock of \$500,000, and with the following officers: F. W. Wheeler, president; H. T. Wicks, vice-president; John S. Porter, treasurer; C. W. Stiver, secretary. Additional frontage was secured on the Saginaw, and a modern steel plant was erected. The passenger steamer, City of Chicago, was the first steel vessel constructed. She was launched in June, 1890. Both wood and steel vessels were built until 1896 when the entire facilities of the yards were applied to steel vessel construction, giving the company a continuous front of 2,500 feet on the Saginaw river, and permitting the simultaneous construction of seven 500-foot steel vessels. The yards are equipped with modern appliances, including hoists, cranes, etc. In 1891 there was added a fully-equipped plant for the construction of modern marine engines and machinery. During the past 21 years 126



vessels have been built by F. W. Wheeler & Co., many of them of the largest size and most modern type.

*The Chicago Shipbuilding Company* is the most recent of the large steel shipbuilders. It was organized in 1889, and purchased on the Calumet river, South Chicago, a tract of 21 acres, upon which a thoroughly equipped modern plant was constructed, consisting of a large plate mill, a bending mill equipped with furnaces, blacksmith shops, molding loft, channel and angle shop, fully equipped carpenter shop, paint shop, rigging loft, boiler plant and engine builders, office building, store room, etc. The works were completed in 1891, and in that year the company began to turn out modern steel freighters. The first vessels constructed were the propellers *Marina* and *Masoba*, each of 2,432 gross tons.

The first officers of the company were J. F. Pankhurst, president; Luther Allen, vice-president and treasurer; W. I. Babcock, manager; J. H. Craig, secretary. In 1892 Messrs. Pankhurst, Allen and Craig retired. Emmons Blaine was elected president; W. F. Cobb, vice-president and O. R. Sinclair, secretary. After the death of Emmons Blaine, W. L. Brown was elected president. There have since been no official changes. The present board of directors consists of president W. L. Brown, vice-president W. F. Cobb, manager W. I. Babcock, H. H. Porter, Norman Williams, C. W. Hillard and Harvey H. Brown.

In 1894 a thoroughly equipped dry dock was added. It is 550 feet in length, and is one of the two largest docks on the lakes. In 1897 there was completed one of the largest machine shops in the West. It is equipped with lathes and various machine tools capable of doing an unusually large class of work. Since its construction the company has built some of the largest engines on the lakes, including the quadruple expansion engines of the *Crescent City* and *W. R. Linn*. The plant is provided with steel shears, capable of lifting 80 tons.

At the plant there are three slips 400 feet or more in length, each 100 feet in width, so that the company has facilities for building at one time six large vessels. At the

close of 1898 34 vessels had been launched and three were on the stocks. At its organization the company had a capital stock of \$350,000, which was increased to \$450,000 when the dry dock was constructed. To its capital stock the company has added a comfortable surplus.

The Union Dry Dock Company and Mills Dry Dock Company of Buffalo, the Craig Shipbuilding Company of Toledo, and the Milwaukee Shipyard Company, of Milwaukee, are other prominent establishments.

*Short History of Lake Dry Docks.*—The following brief sketch of lake dry docks is from the *Marine Review*, of April 23, 1896: The first dry dock constructed on the American side of the Great Lakes was built at Buffalo. In 1836 there was a ship railway at Ohio street, Buffalo, built by Bidwell & Banty. A capstan turned by horses was the power used. In the same city, about the same time, another ship railway was constructed, where the Union dry dock is now located, and operated by steam power. This last was replaced in 1838 by a dry dock large enough to dock any vessel then navigating the lakes. The depth of water on the sill was 8 feet. This dock was enlarged in 1844 and again in 1848 in order to accommodate vessels of increased size.

A ship railway was built in Cleveland, in 1844, by Tisdale & Johnson; a floating dock in 1847, and in 1870 a dry dock was built by Stevens & Presley. This dock was 250 feet long on the blocks with 10½ feet of water on the sill. In 1876 this dock was lengthened to 290 feet, and in 1892 the old dock was taken out and the present Cleveland Dry Dock Company's dock built. This dock is 360 feet in length, and has 20 feet of water on the sill. In 1888 the Ship Owners Dry Dock Company, of Cleveland, was organized. The same year they built a dry dock at the head of the old river bed, 340 feet on the blocks with 16 feet of water on the sill. This last dock the company are now lengthening to 440 feet on the blocks, the depth of the entrance remaining the same. This company also owns and operates a dock built in 1890, having an effective length of 300 feet, with 13½ feet of

water on the sill. The same pumping plant discharges the water from both these docks. [In 1898 the ownership of the Cleveland dry docks was consolidated into one company.]

At Detroit in 1851, Lew, John and Hiram Ives built a dock at a point now known as the foot of Swain avenue. Particulars as to the size of the dock are not available. The second and third docks at Detroit were constructed by John Clark in 1855 and 1857, respectively. These last two docks are still in use. Campbell & Wolven built a dock in 1859, and Campbell & Owen another in 1866. This last mentioned dock was removed, and the principal dock now owned and operated by the Detroit Dry Dock Company was built on its site in 1892.

Port Huron has three docks. The largest, owned by Dunford & Alverson, was built in 1891. At Bay City, Mich., Church & Co. converted the hulk of the once famous passenger steamer *Western World* into a dry dock in 1871. This dock was operated until 1877, when a ground dry dock was constructed; it having been found that the clay upon which the old hulk rested was firm enough to withstand the pressure of the water, a slip was dug 250 feet long and a gate-way constructed, but no sides or foundation were put in. The only dry dock on the American side of Lake Ontario is located at Oswego. The dock was built in 1865 by George Goble. It is 175 feet long and has ten feet of water over the sill.

The dock of the American Steel Barge Company at West Superior, Wis., was built in 1891, and is the only one on Lake Superior. It is the longest dock on the lakes, being 500 feet on the blocks.

At Chicago, Conner in 1848 had a set of ways at Van Buren street, where vessels could be pulled up. In 1848-49 Doolittle & Miller built boxes to raise boats of 300 to 400 tons register. The first dry dock in Chicago was built in 1854-55. George Wicks started the work in 1854, but he sold his interest to Doolittle & Miller, and the dock was completed by them in 1855. This dock is still in use. It is known as Miller Bros.' Dock No. 1, and is located at North Halsted street bridge. Its length

is 275 feet and water on sill 8 feet. Miller Bros., successors to Doolittle & Miller, constructed a dock in 1871-72, located alongside their No. 1 dock. This dock is 310 feet in length, and will admit vessels drawing 14 feet of water. A dock was built at Polk street in 1863, 250 feet long. This dock was lengthened in 1870 to 305 feet and abandoned and filled up about 1888. E. M. Doolittle constructed a dock at an early day on the West side. This dock, now abandoned, was 235 feet long, and would admit boats drawing 12 feet. The dock of the Chicago Ship Building Company at 101st street and Calumet river is one of the latest docks built on the lakes, and is among the largest.

Murphy's dry dock, situated on the Erie canal and the Murphy dry dock slip, Buffalo, was established immediately after the opening of the Erie canal in 1825 by Van Slack & Gillson. Upon the death of the latter in 1858, Mr. Nutter became a member of the firm, and the name became Van Slack & Nutter, which lasted until 1868, when Mr. Van Slack died. His son, John Van Slack, and the bookkeeper of the firm, Albert Haight, then formed a partnership and ran the business until 1875, when Baker & Sons effected a lease of the property and ran the business until 1884, when the present proprietor, William Murphy, leased the property, and has conducted the business ever since. The principal business is the repairing of boats that run on the Erie canal, railroad docks being used for taking the boats out of the water. Mr. Murphy has built a number of canal steamers and consort.

The Milwaukee Dry Dock Company was formed November 1, 1891, by the consolidation of the Wolf & Davidson Dry Dock Company and the Milwaukee Shipyard Company. In 1897 the docks owned by the company were increased in size as follows: South yard dry dock to 455 feet on keel blocks; west yard dry dock to 312 feet on keel blocks; rudder pits in each dock to unship rudders. In the same year (1897) the efficiency of the plant was further increased by the addition of a plant for the repairing and building of steam

vessels. This company now has one of the largest repairing plants on the lakes, and its entire plant also is one of the largest. The officers of the company are W. E. Fitzgerald, president; Fred C. Starke, vice-president; A. M. Joys, secretary and treasurer; W. A. Starke, John B. Merrill, A. M. Joys, Fred C. Starke, C. H. Starke, George C. Markham and W. E. Fitzgerald, directors.

#### GROWTH OF TONNAGE.

In sketching the growth of navigation on Lake Erie for the first half of the century, James L. Barton said: "In 1810, on Lake Erie, there were about 10 vessels, averaging 60 tons each. In 1820, 30 vessels, of 50 tons each, and one small steamboat. In 1831, 100 vessels, averaging 70 tons each, and 11 steamboats, with an aggregate capacity of 2,260 tons. In 1836, there were owned, on Lake Erie, 45 steamboats, of 9,119 tons, and 217 ships, brigs and schooners, of 16,645 tons. In 1847, there were 67 steamers, 26 propellers, 3 barks, 64 brigs and 340 schooners.

"The sail vessels owned on Lake Erie and the Upper Lakes, in 1847, vary in size from 30 to 350 tons; the largest one being an old steamboat converted into a sail craft. The smaller sized ones are employed in wood, lumber and stone business, and confine their operations principally to rivers and short trips, while the larger ones are employed in freighting produce, merchandise and other property, the whole length of the lakes.

"The cost of these vessels varies from \$1,000 to \$14,000. \* \* \* These vessels will earn annually from \$500 to \$6,500 each. I average them all at \$3,000."

The tonnage of 1846 was 106,830 tons, having nearly doubled in five years, showing an average yearly increase, during that time, of 18 per cent. The total amount of merchandise transported in 1846 was 3,861,098 tons. British tonnage on the lakes was 30,000 tons. The total cost of lake tonnage in 1846 was estimated at \$5,341,800. The total number of passengers carried in 1846 was 250,000. The number of

mariners was 6,972. The steam tonnage was 60,825; sail tonnage, 46,011.

Above the Falls of Niagara there were, in 1846, 62 steamboats, averaging 101 tons; 18 propellers, averaging 328 tons; 59 brigs and barks, averaging 230 tons; 319 schooners, averaging 152 tons. Below the Falls, on Lake Ontario, there were 8 steamers, averaging 277 tons; 10 propellers, averaging 275 tons; 186 sailing vessels, averaging 114 tons.

The annual expense for wages, fuel, repairs, provisions, etc., in 1846 was \$1,750,000.

In 1848, a half century ago, there were on the entire chain of lakes the following numbers of the different kinds of vessels: 95 steamers with a tonnage of 38,942; 45 propellers, tonnage 14,435; 5 barks, tonnage 1,645; 93 brigs, tonnage 21,330; 548 schooners, tonnage 71,618, and 128 sloops and scows, tonnage 5,484, making a total tonnage of 153,454.

In 1855 the numbers had grown to the following: 110 steamers, tonnage 57,961; 97 propellers, tonnage 33,732; 33 barks, tonnage 12,839; 101 brigs, tonnage 25,901; 639 schooners, tonnage 97,641, and 216 sloops and scows, tonnage 9,760, total tonnage 237,834.

In 1858, there were on the lakes: United States vessels, 1,194, tonnage 399,443; Canadian vessels, 321, tonnage 59,580. Value of United States tonnage on the lakes, \$16,000,000; value of lake commerce, imports and exports, \$600,000,000; number of seamen employed, 13,000.

In 1860 there were on the lakes 1,122 sail vessels with a tonnage of 252,125; 138 steamers, tonnage 69,150; propellers, 197, tonnage 66,550—total 1,459, with a tonnage of 377,825.

On the northern lakes, at the close of the census year 1880, there were 947 steamers, measuring 222,290 tons, and valued at \$13,918,925. They gave employment to 9,143 men, and were paid an average of \$360, exclusive of shore help. There were 926,250 regular and excursion passengers carried, and 429,760 ferry passengers.



The freight movement was 4,368,171 tons, exclusive of 318,889,000 feet of lumber. Of the 947 steamers, 141 were passenger steamers, average tonnage 400; 28 ferry steamers, average tonnage 129; 202 freight steamers, average tonnage 689; 426 towing steamers, average tonnage 48; and 150 yachts, average tonnage 18. In 1851 the average tonnage of steamers was 437; in 1880 it was reduced to 235, owing to an increase in the number of tugs and yachts.

The growth of tonnage on the Great Lakes is shown in the following table of the number and tonnage of sail vessels, steam

vessels and barges in commission for the years named:

YEAR	VESSELS	TONNAGE
1810.....	10	600
1820.....	50	5,585
1831.....	111	9,260
1836.....	262	25,765
1845.....	493	132,000
1855.....	1,196	237,830
1860.....	1,457	377,825
1870.....	2,455	435,152
1880.....	2,555	557,943
1890.....	2,853	995,489
1897.....	2,869	1,372,125
1898.....	2,872	1,397,044

THE NUMBER AND GROSS TONNAGE OF SAILING VESSELS, STEAM VESSELS, CANAL BOATS AND BARGES, ON THE NORTHERN LAKES, FROM 1868 TO 1898, AS COMPILED BY THE COMMISSIONER OF NAVIGATION, HAVE BEEN AS FOLLOWS:

YEAR	SAILING		STEAM		CANAL BOATS		BARGES		TOTAL	
	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons
1868.....	1,855	293,977	624	144,117	2,822	241,552	64	15,956	5,365	695,604
1869.....	1,752	277,892	636	146,236	2,384	215,164	103	22,072	4,875	661,366
1870.....	1,699	264,608	642	142,973	2,894	249,553	114	27,569	5,349	846,704
1871.....	1,662	267,153	682	149,467	3,037	264,198	132	31,208	5,513	712,027
1872.....	1,654	270,051	708	162,522	2,814	254,056	161	37,863	5,337	724,493
1873.....	1,663	298,002	802	180,250	2,934	267,600	177	42,559	5,576	788,412
1874.....	1,698	336,801	876	198,121	2,812	261,135	216	46,323	5,600	842,381
1875.....	1,710	339,786	891	202,307	2,702	250,657	193	45,139	5,496	837,891
1876.....	1,643	331,497	921	201,742	441	34,386	188	45,584	3,193	613,211
1877.....	1,604	324,394	923	201,085	472	37,473	192	47,207	3,191	610,160
1878.....	1,546	315,908	918	201,550	519	41,992	183	45,295	3,166	604,656
1879.....	1,473	307,077	896	203,298	548	44,774	170	42,226	3,087	597,376
1880.....	1,459	304,932	931	212,045	572	47,159	165	40,965	3,127	605,102
1881.....	1,417	306,436	988	260,114	640	55,379	162	41,452	3,207	663,382
1882.....	1,412	313,651	1,101	292,256	702	62,455	164	42,905	3,379	711,269
1883.....	1,373	310,454	1,149	304,641	725	65,241	156	43,574	3,403	723,911
1884.....	1,333	307,932	1,165	322,456	756	68,581	126	34,099	3,380	733,069
1885.....	1,322	313,128	1,175	335,859	771	70,150	111	30,810	3,379	749,948
1886.....	1,235	282,319	1,280	381,907	789	72,201	101	26,131	3,405	762,560
1887.....	1,286	315,078	1,225	390,397	549	56,487	84	21,757	3,144	783,721
1888.....	1,277	314,765	1,342	480,138	593	61,005	78	18,193	3,290	874,102
1889.....	1,285	325,082	1,455	575,307	628	64,607	44	7,274	3,412	1,972,271
1890.....	1,272	328,655	1,527	652,922	657	67,574	54	13,910	3,510	1,063,063
1891.....	1,243	325,131	1,592	736,751	703	72,515	62	20,472	3,600	1,154,570
1892.....	1,226	319,617	1,631	763,063	731	75,580	69	25,321	3,657	1,183,582
1893.....	1,205	317,789	1,731	828,702	743	76,843	82	37,731	3,761	1,261,067
1894.....	1,139	302,985	1,731	843,239	386	41,961	85	39,214	3,541	1,227,400
1895.....	1,100	300,642	1,755	857,735	406	44,073	81	39,081	3,342	1,241,459
1896.....	1,044	309,152	1,792	924,630	416	45,109	81	45,175	3,333	1,324,067
1897.....	993	334,104	1,775	977,235	361	37,978	101	60,785	3,230	1,410,102
1898.....	960	333,704	1,764	993,644	384	40,456	148	69,696	3,256	1,437,500

In a letter to the publishers, Eugene T. Chamberlain, commissioner of the Bureau of Navigation, says that prior to 1868 collectors of customs reported vessels as sail or steam, classing barges and canal boats under the head of sailing vessels. The above table includes only documented vessels. The large decrease of canal boats from 1875 to 1876 is due to the exemption of such vessels from documents by Act passed April 18, 1874, and its effects became appreciable in the following fiscal year.

Up to 1822 the statistical system of the government was most inaccurate. It is very difficult to find any figures concerning Great Lakes craft before 1816. The statistical report for that year shows that at Genesee there were 127 tons of sailing vessels registered for trade with Canada; at Champlain 800 tons of the same description; and at Oswego a total of 927 tons, part of which was in trade with Canada and part coastwise, making a total for the Great Lakes, reported, of 1,914 tons for that year.

The tonnage of vessels built in the United States and on the Great Lakes from 1857 to 1897, inclusive, is shown in the following table:

YEAR ENDING JUNE 30	TONNAGE BUILT—		TOTAL IN THE UNITED STATES	
	NO.	TONS	NO.	TONS
1857		51,498	1,434	378,805
1858		31,642	1,225	244,713
1859		6,180	870	156,602
1860		11,992	1,071	214,798
1861		23,467	1,143	233,194
1862		53,804	864	175,076
1863		67,972	1,823	311,046
1864		49,151	2,366	415,741
1865		36,641	1,788	383,806
1866		33,204	1,888	336,147
1867		39,679	1,519	303,529
1868		56,798	1,802	285,305
1869		49,460	1,726	275,230
1870	320	37,258	1,618	276,953
1871	274	43,897	1,755	273,227
1872	252	44,611	1,643	209,052
1873	445	92,448	2,271	359,246
1874	417	91,986	2,147	432,725
1875	177	29,871	1,301	297,639
1876	140	16,124	1,112	203,586
1877	89	8,903	1,029	176,592
1878	101	11,438	1,258	235,504
1879	95	15,135	1,132	193,031
1880	137	22,899	902	157,410

YEAR ENDING JUNE 30	TONNAGE BUILT—		TOTAL IN THE UNITED STATES	
	NO.	TONS	NO.	TONS
1881	215	73,504	1,108	280,459
1882	254	58,369	1,371	282,270
1883	171	28,638	1,268	265,430
1884	135	30,431	1,190	225,514
1885	117	26,826	920	159,056
1886	85	20,400	715	95,453
1887	152	56,488	844	150,450
1888	222	101,103	1,014	218,087
1889	225	107,080	1,077	231,134
1890	191	108,526	1,051	294,123
1891	204	111,856	1,384	369,302
1892	169	45,969	1,395	199,633
1893	175	99,271	956	211,639
1894	106	41,985	838	131,195
1895	93	36,353	694	111,602
1896	117	108,782	723	227,097
1897	120	116,937	891	232,233
1898	87	54,084	952	180,458

*Annual Construction of Vessels.*—The following table, compiled from the records in the office of the Register of the Treasury, shows the number and tonnage of steamboats built on the Northern lakes—1816 to 1867:

YEAR	NO.	TONNAGE	YEAR	NO.	TONNAGE
1816	1	232	1842	5	1,398
1817			1843	3	532
1818	3	690	1844	6	1,476
1819			1845	5	2,242
1820			1846	15	5,862
1821			1847	19	7,659
1822	1	346	1848	13	7,378
1823	1	49	1849	19	*11,140
1824			1850	8	+3,351
1825	1	125	1851	9	5,347
1826	4	892	1852	19	8,601
1827			1853	29	13,330
1828			1854	31	16,565
1829			1855	21	+23,110
1830	1	94	1856	26	\$13,654
1831	1	31	1857	41	16,728
1832	4	753	1858	37	12,917
1833	7	1,563	1859	16	2,544
1834	10	2,158	1860	20	5,011
1835	3	1,189	1861	20	2,377
1836	2	414	1862	41	9,308
1837	6	1,905	1863	73	13,578
1838	12	3,105	1864	157	70,669
1839	9	2,505	1865	48	6,425
1840	6	1,114	1866	45	4,761
1841	3	814	1867	36	8,595

\* 9 sailing vessels included.  
 † 3 sailing vessels included.  
 ‡ 107 sailing vessels included.  
 § 8 sailing vessels included.

THE CLASS, NUMBER AND GROSS TONNAGE OF VESSELS BUILT AND DOCUMENTED ON THE NORTHERN LAKES FROM 1868 TO 1898 ARE COMPILED AS FOLLOWS BY THE COMMISSIONER OF NAVIGATION:

FISCAL YEAR.	SAILING VESSELS		STEAM VESSELS		BARGES		TOTAL	
	NO.	TONS	NO.	TONS	NO.	TONS	NO.	TONS
1868.....	129	22,490	64	14,282	28	4,238	221	38,010
1869.....	83	14,462	77	13,339	35	5,458	195	33,259
1870.....	69	10,322	49	7,196	9	3,289	127	28,807
1871.....	60	13,839	46	12,293	19	3,795	125	29,927
1872.....	57	12,962	60	15,926	15	4,019	132	32,907
1873.....	112	40,840	105	21,418	23	5,818	240	69,076
1874.....	130	43,851	99	24,487	22	4,733	251	73,071
1875.....	62	12,269	70	12,490	11	1,620	143	26,379
1876.....	35	2,507	79	8,972	6	2,469	120	13,948
1877.....	29	2,636	39	3,802	4	551	72	7,039
1878.....	33	1,505	55	8,644	2	130	90	10,279
1879.....	30	1,173	44	11,542	5	579	79	13,294
1880.....	48	5,447	65	14,306	8	1,356	121	21,109
1881.....	52	12,936	109	49,080	14	3,111	175	65,127
1882.....	66	16,164	130	34,100	5	1,988	201	52,252
1883.....	34	6,437	100	17,253	3	1,158	137	24,848
1884.....	29	7,667	80	20,206	1	10	110	27,883
1885.....	30	3,861	64	20,229	5	768	99	24,858
1886.....	15	5,232	47	12,648	5	412	67	18,292
1887.....	35	4,991	75	47,183	8	378	118	52,552
1888.....	48	9,131	140	87,459	2	468	190	97,058
1889.....	32	8,098	145	93,707	5	678	182	102,483
1890.....	36	12,803	116	86,023	12	6,739	164	105,565
1891.....	30	7,240	123	93,323	11	6,853	164	107,416
1892.....	41	3,474	93	34,129	8	5,449	142	43,053
1893.....	21	9,277	126	76,161	11	11,867	158	97,305
1894.....	18	5,473	71	34,889	6	429	95	40,791
1895.....	22	8,166	58	26,516	2	446	82	35,128
1896.....	19	21,825	75	75,744	14	10,185	108	107,754
1897.....	26	39,151	43	61,787	26	12,722	95	113,660
1898.....	11	9,151	37	33,241	20	9,409	68	51,801

In 1898 there were also constructed 19 canal boats having a tonnage of 2,383.





## CHAPTER XXIV.

### THE LAKE CARRIERS.

THE FIRST VESSEL OWNERS—BEFORE THE RAILWAY ERA—EARLY TRANSPORTATION COMPANIES—ASSOCIATION OF STEAMBOAT OWNERS—PACKET BOAT AND OTHER LINES—MICHIGAN CENTRAL AND LAKE SHORE LINES—ASSOCIATION OF LAKE LINES—IRON ORE COMPANIES AND VESSELS—PRESENT LINE COMPANIES—LAKE CARRIERS ASSOCIATION—LUMBER CARRIERS ASSOCIATION—CANADIAN TRANSPORTATION LINES, ETC.—THE CANADIAN PACIFIC RAILWAY LINES—THE CANADIAN MARINE ASSOCIATION.

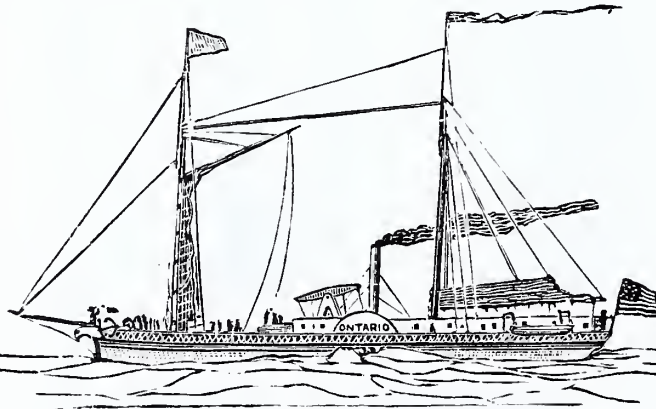
THE owners of the earliest vessels on the lakes were usually individuals or companies of large financial resources. Lake commerce began in the prosecution of vast enterprises, of which transportation by water was only a part. The Griffin was built, partly for the fur trade, partly to advance the great scheme of territorial conquest, which burned in the breast of the ambitious and indomitable La Salle. The early fur trading companies, extending operations far beyond the lake region, built pioneer vessels.

Next, in the progress of lake fleets, came government ownership. Squadrons sprang up at the command of nations, contending for mastery of the Great Lakes, and, when peace finally followed, the individual lake carriers began to appear, and for many years flourished in ever-increasing numbers. During the first half of the present century, masters were usually owners or part owners of the craft they commanded, especially of the sailing vessels.

Corporations were also early on the waters. The first steam-

boat on the lakes, the Ontario, was built by a company which sought to obtain a monopoly of steam navigation on Lake Ontario. The courts decided against their claims, as related in another chapter, and when that momentous issue was settled by the supreme judiciary of the land, individual enterprise was directed to the extension of the new kind of navigation. Larger means were required to build steamboats, but commerce was free. Forwarders and landsmen united their means with practical mariners in keeping the tonnage of the lakes up to the growing needs of commerce. There was associated effort in maintaining freights, but it was often imperfect, because all carriers could not be induced to work in harmony.

These were practically the conditions when railroad construction modified lake traffic. No sooner had the iron tracks reached port, than the railway company began to organize lake lines to co-operate with them in land transportation; thus the first period of lake commerce closed.



SIDE-WHEEL STEAMER ONTARIO.

Modern conditions then took shape. The iron companies of the Lake Superior region in time began to build vessels and to engage in the lake transportation of their ore. A recent question of grave concern to lake carriers is the probable degree to which the latest organized ore-carrying company, the Bessemer Steamship Company, will influence that trade.

There are two large and distinct corporate interests at present on the Great Lakes, the line companies, affiliating with the railways, and the ore-carriers, identical in interest with the operators of iron ore mines.

Vast coal interests exist on the Great Lakes, but the coal operators are not vessel owners, and there is no prospect that they will be. As lake commerce is now constituted, the up freight is comparatively unimportant. No vessel property would prove profitable, engaged primarily in coal transportation. There is usually more tonnage than cargoes for coal. A few coal operators own vessels, but it is because they have still larger interests in ore.

The grain traffic also, from its very nature, is wholly distinct from vessel ownership. Lumber interests have partially ownership in vessel property. The individual vessel owners, having no affiliations with traffic interests, constitute a numerous class and still possess a large proportion of lake tonnage.

*Early Transportation Companies.*—Reference, somewhat more extended, may properly be made to the more important of the earlier transportation companies, one of which was the Steam Transportation Company on Lake Ontario and the St. Lawrence river.

This company advertised, in 1826, to "transport all property delivered to their agents at the different ports on the lakes, and forward the same to any other port, and, if required, to New York, Montreal, and any ports on the western lakes on the most liberal terms." The agents were S. Dennison, at Rochester; C. Hotchkiss, Lewiston; O. Hathaway, Youngstown; Alvin Bronson and Matthew McNair, Oswego; P. Butterfield, Sacket's Harbor; Ainsworth

& Lee, Cape Vincent; A. Chapman & Co., Morristown; John C. Brush, Ogdensburg.

The steamer Ontario, which, during the first few years of her existence, had been sailed by Captains Maloy and Robert Huginson, was advertised, in 1827, by the Ontario Steamboat Company, to ply between Ogdensburg and Lewiston, calling at various landings. She was commanded by Capt. P. Ingalls, with the same agencies as above cited, and on June 20 the steamer Martha Ogden, owned by the same company, commenced plying between Cape Vincent and Morristown.

*Association of Steam Boat Owners.*—

Soon after steam became established as a motive power, the vessel owners began to form associations for mutual advantage. James L. Barton, of Buffalo, one of the most prominent marine men of a half century ago, was closely identified with these early efforts at co-operation. In describing them he says:

"It is well known that the steamboats navigating these waters have very frequently consolidated their interests and made returns of all the earnings to one office, where their accounts have been annually settled. In 1833, the first association was formed by the steamboat owners, and, as I was then engaged in commercial business, I was appointed secretary to the company; and, as such, kept all the books and received the returns from each boat.

"In 1834 the boats kept up the association, which was composed of 18 boats, costing \$600,000, some new ones having come out that season. The same mode of keeping and settling accounts was adopted. In 1836 the steamboat association was dissolved; the number of steamboats increased; so did the business. In 1839 another association was formed by the owners of the different steamboats, and a line of eight boats ran between Buffalo and Chicago."

In 1840 the steamboat association was kept up, and embraced more boats than the one of 1839. The total was 48 boats, valued at \$2,200,000, and the business done that year by the boats of the association amounted to \$201,838.

In 1841 the same arrangement existed

among the steamboats, and was continued for some years afterward. There were a few boats which usually kept out of the association.

#### PACKET BOAT AND OTHER LINES, ETC.

The Ohio Canal Packet Boat Company had a line of packet boats running between Cleveland and Portsmouth on the Ohio river, a distance of 300 miles, leaving either point daily, and these boats connected with lake vessels on through traffic.

Bronson & Crocker, in 1839, were the proprietors of the Troy & Oswego line of canal boats at Oswego. The Western Transportation Company had a line of canal boats running between Albany and Buffalo in connection with the steamboats Thomas Jefferson, James Madison, Erie, Buffalo, Pennsylvania; brigs Neptune and Rocky Mountains; schooners Platina, Dayton, Wyandotte, Major Oliver, and the Ohio line on the Ohio canal.

The various lines of transportation grew rapidly between 1840 and 1850. The railroad companies were reaching lake ports and began to organize lake transportation companies to operate in connection with their roads.

A line of steamers was formed in 1848 to ply between Monroe and Buffalo, consisting of the steamers Southerner, Baltimore, DeWitt Clinton, Ben Franklin and the Julius. The line was to ply in connection with the Michigan Central railroad.

In March, 1853, daily communication was established between Chicago and Milwaukee by a line of boats, and in July two vessels of Ward's line were put on. An opposition line started the steamer Garden City, August 1, and a few days later direct weekly communication was opened between Chicago and Sault Ste. Marie.

The Northern Transportation Company was formed in 1851 with a line of first-class propellers plying between Oldenburg and Chicago, and intermediate points, Crawford & Chamberlain, proprietors. In 1852 the Northern Transportation line was composed of the propellers Ogdensburgh, Boston, Prairie State, Michigan,

Wisconsin, Vermont, New Hampshire, Cleveland, J. W. Brooks, Lady of the Lakes and Louisville. New boats were added in the course of years, their tonnage ranging from 280 to 300 tons. The company continued in existence for upward of 24 years, during the latter part of which it was clearly demonstrated that owing to the fall in lake freights, in connection with so long and extended a route, the business did not pay, and gradually the steamers were disposed of and converted into steam barges. They proved well adapted for heavy weather, and equally so with those of the larger class. During the latter years of the above corporation it was almost exclusively under the management of Philo E. Chamberlain.

The principal commercial lines in operation on the lakes in 1853 were the American Transportation Company, Western Transportation Company, New York and Lake Erie line, Northern Transportation Company, composed of twelve steamers; Troy and Western line; Lake Superior line, between Cleveland and the Sault, and Detroit and the Sault, three different lines; Detroit and Sandusky, steamer Bay City; Detroit and Port Huron, steamers Pearl and Ruby, E. B. & S. Ward, proprietors; also a line of boats between Buffalo, Detroit and Chicago.

In Farmer's history of Detroit appears the following account of the Michigan Central line: From the time the Michigan Central became a private corporation passenger traffic from the East was especially sought for, and in order to obtain it the company in 1847 began building a boat to run between Buffalo and Detroit. Their first boat, the Mayflower, built at Detroit, was completed May 28, 1849, and from that date formed with the Atlantic a regular Michigan Central railroad line between Buffalo, Cleveland and Detroit. The Mayflower was the finest boat that had thus far appeared on the lakes. She had 85 state-rooms and could carry 300 cabin and from 300 to 500 steerage passengers. In the season of 1850 and 1851 the line to Buffalo consisted of the Mayflower, the Atlantic and the Ocean; and in the same year the



steamboats Southerner and Baltimore ran to Cleveland.

The Mayflower stranded on December 16, 1851, near Erie, but no lives were lost. She was recovered in the spring of 1852 and again took her place in the line. In the same year the Forest City and the May Queen were running to Cleveland.

On August 20, 1852, the propeller Ogdensburgh collided with the Atlantic on Lake Erie off Long Point, and 131 lives were lost. The Buckeye State took the place of the Atlantic, and in 1853 ran in connection with the Ocean and the Mayflower. In 1854 and 1855 the Michigan Central railroad line was made up of the Buckeye State, the Plymouth Rock and the Western World. The two boats last named went into service July 7 and 10, 1854, and were much the largest and finest ever placed on the lakes. They were nearly alike in size, build and finish. The Plymouth Rock was 363 feet long. The Mississippi, an equally fine boat, was added in 1855, and with the Plymouth Rock formed the line for that year. After the completion of the Great Western railroad through Canada in 1854, their occupation was nearly gone. They were laid up in the fall of 1857, and year after year remained at the Central wharf. In 1862 the Western World and the Plymouth Rock were sold to Capt. George Sands, of Buffalo. Their engines were taken out and placed in boats to be used on the coasts of China. Their hulls and also that of the Mississippi afterwards served as dry docks at Bay City, Port Huron and Cleveland or Buffalo.

Another railroad company, operating on Lake Erie nearly a half century ago, was the Michigan Southern, now part of the Lake Shore and Michigan Southern road. This company's road was opened from Monroe to Adrian, Mich., in 1840, and by extension westward and its connection with the Northern Indiana road, now also a part of the Lake Shore system, a road between Toledo and Chicago was completed in 1849.

Auditor R. H. Hill, of the L. S. & M. S. Ry. Co., in a letter to the publishers of this history gives the following account of boats

operated by the Michigan Southern Company: "In 1852 the Michigan Southern Co. operated six boats—the Baltic, Golden Gate, Southern Michigan, Northern Indiana, Empire and Empire State. The four boats first named were chartered. The Empire State was owned by the Michigan Southern Co., and I think the Empire was owned. In 1853 the Michigan Southern Company operated three boats: the Southern Michigan, Northern Indiana and Empire State. In 1854 and 1855 the Michigan Southern Co. operated four boats; the three last named and the Empire. On May 1, 1855, the Michigan Southern Railway Co. and the Northern Indiana Railway Co. were consolidated. In 1855 and 1856 this new company (the M. S. & N. I.) built two large and handsome steamers—The Western Metropolis and the city of Buffalo. In the year 1856 they also built the propeller Euphrates. While I have no positive information about it, I believe that in 1852, 1853 and 1854 the old Michigan Southern Company ran two of their boats between Buffalo and Monroe, Mich. [Monroe was the eastern terminus of the Michigan Southern Company.] I believe that in 1855 they abandoned the line between Buffalo and Monroe and ran their boats between Buffalo and Toledo.

"A report of the M. S. & N. I. Co., dated October 12, 1855, states: 'The company own four steamboats on Lake Erie, three of which run in a line between Toledo and Buffalo, and one between the former and Dunkirk. A new boat is to be built the ensuing winter, in the place of the Empire State, of the Buffalo line, using her engine, and which will be ready to take her place in the line early next season.' I have been informed by persons who were somewhat acquainted with the matter that the M. S. & N. I. Co. found it was decidedly unprofitable for them to operate this marine equipment, and therefore determined to abandon the operation of their steamers after the close of the season of 1857."

#### IRON ORE COMPANIES AND VESSELS.

Many of the iron ore mining companies on the upper lakes have in recent years

through auxiliary companies purchased modern vessels, and transported their own ore to lower lake ports. Representative companies are herewith briefly sketched.

*The Cleveland Iron Mining Company* was organized in 1849 and was chartered by the Legislature of Michigan in April of 1850. The incorporators named in the Act were as follows: John Outhwaite, M. L. Hewitt, C. D. Brayton, Benjamin Strickland, Samuel L. Mather, John W. Allen, Aaron Barker and E. M. Clark. M. L. Hewitt was made president of the company, Samuel L. Mather, secretary and treasurer. This company was one of the first to mine iron ore in the Lake Superior district. It was organized for the purpose of mining ore in Marquette county, Michigan, where they owned about 3,000 acres of land. The ore was transferred from the mines near Ishpeming to the port of Marquette, where it was loaded on vessels, and then brought down to Lake Erie ports, Cleveland, Ohio, being one of these ports.

The first cargo of iron ore ever shipped from the Lake Superior region was transported by the steamer Ontonagon for the Cleveland Iron Mining Company in 1856, and consisted of 269 tons. The steamer left the port of Marquette about June 18, of that year, and arrived at Cleveland June 24. This company, then, has the distinction of shipping the first iron ore, and the Ontonagon of transporting the first cargo in an industry that has grown to great magnitude. The shipments of this company during the first year were 6,343 tons. For many years the Cleveland Iron Mining Company kept on developing its mines, bringing its ores down in wild tonnage, until 1867, at which time, although elected president of the company in 1869, Samuel L. Mather was still secretary and treasurer and its real moving spirit. At this time they made their first purchase of an interest in vessel property, buying a half interest in the bark George Sherman, of about 550 tons burden. The other half of the vessel was owned by H. J. Webb, the pioneer vessel broker of Cleveland. This interest remained in this company for about three years, at the end of which time it was sold.

Some of the individual stockholders in this company about this time organized the Cleveland Transportation Company, owning the steamer Geneva and consort Genoa, steamer Havana and consort Helena, steamer Sparta and consort Sumatra, and steamer Vienna and consort Verona. This company continued to be thus interested for about fifteen years, when they disposed of their holdings. At the time when the company became interested in the fleet mentioned above, Samuel L. Mather was president, John Outhwaite, vice-president, and F. A. Morse, secretary.

In 1889 W. G. Mather was vice-president, and mainly through his influence the company began the building of steel steamers, on account of their lasting qualities. The Pontiac and Frontenac were built this year for this company, by the Cleveland Ship Building Company. The Pontiac is 320 feet over all, 40 feet beam and 25 feet deep, has a gross tonnage of 2,298, and a net tonnage of 1,788. The Frontenac is 289 feet over all, 39½ feet beam and 24 feet deep; has a gross tonnage of 2,003, and net tonnage, 1,676. Here again this company showed its progressive spirit by being the first iron ore company to construct steel tonnage for the transportation of its product on the Great Lakes.

In 1890 the principal stockholders of the Cleveland Iron Mining Company acquired a controlling interest in the stock of the Iron Cliffs Company, a corporation which owned in Marquette county, Mich., some 55,000 acres adjoining that of the Cleveland Iron Mining Company, on which there were located several rich mines. After this purchase a new corporation was formed, taking a controlling interest in the stocks of the two companies, and was named The Cleveland-Cliffs Iron Company. In October, 1890, Samuel L. Mather died, and thereupon W. G. Mather was elected president of the Cleveland-Cliffs Iron Company, J. H. Wade, vice-president, and J. H. Sheadle, secretary, positions which each officer retains.

In 1893 the Cleveland-Cliffs Iron Company built the steel steamers Pioneer and Cadillac. The Pioneer was constructed by the Detroit Dry Dock Company. She is

241 feet over all, 35 feet beam and 17 feet deep. She has a net tonnage of 774 and a gross tonnage of 1,124. This vessel is equipped with three hoisting cranes on the spar deck, for the purpose of handling pig iron. The Cadillac was constructed by the Chicago Ship Building Company; she is 244 feet over all, 37 feet beam and 19 feet deep. Her net tonnage is 1,068 and gross tonnage, 1,264.

Early in 1890 some of the principal stockholders in the above company acquired a controlling interest in the St. Clair Steamship Company, which owned the steamer Kaliyuga and the schooner Fontana. The Kaliyuga was built at St. Clair, Mich., in 1887, is 288 feet over all, 40 feet beam and 24 feet 8 inches deep; her gross tonnage is 1,941, and net tonnage, 1,581. The Fontana was built at St. Clair, Mich., in 1888; has a gross tonnage of 1,163 and a net tonnage, 1,105. Her keel is 230 feet long.

These wooden boats, together with the small wooden vessels, viz., steamer E. S. Pease and schooner Planet, employed for carrying up the coal used in the mines and ore down, are operated in connection with the Cleveland-Cliffs Iron Company's fleet.

*The Lake Superior Iron Company* was organized in 1853, with the following board of directors: Herman B. Ely and Anson Gorton, of Marquette, Mich., and Samuel P. Ely, George H. Ely and Alvah Strong, of Rochester, N. Y., and with the following officers, Herman B. Ely, president; Anson Gorton, secretary, and Samuel P. Ely, treasurer. It was incorporated under the laws of Michigan, with a capital stock of \$300,000, which has since been increased to \$2,500,000. The purpose for which it was organized was the mining of iron ore, the smelting of the same, and the manufacture of iron for market, the selling of the products of their mines and manufactories, and the acquiring, holding, selling and conveying all property, real and personal, necessary for the purpose of carrying on its business.

Its first vessels, built in 1890 by the Cleveland Ship Building Company, were the Joliet and the La Salle, both steel

steamers. Their dimensions were the same, 266 feet keel and 38 feet beam. Their tonnage is 1,921. In 1891 the Cleveland Ship Building Company built for the Lake Superior Iron Company the steel steamers Griffin and Wawatan. These were also of the same dimensions with each other, viz.: 266 feet keel and 38 feet beam. Their tonnage was 1,856.

In 1892 this company had built the steel steamers Andaste and Choctaw. They were of a peculiar type, called the monitor type, a cross between the regular steamboat and the whaleback. They were intended to be of the same dimensions, but differ slightly from each other in size. The Andaste is 267 feet keel and 38 feet beam, and has a tonnage of 1,574 gross tons, while the Choctaw is 266 feet keel and 38 feet beam, and has a tonnage of 1,573 gross tons.

*Hanna, Garretson & Co.* began business in 1851, and boat building in 1857. This firm was composed of Dr. Leonard Hanna, Hiram Garretson and Robert Hanna. They came to Cleveland from New Lisbon (now Lisbon), Columbiana Co., Ohio, for the purpose of organizing a bank and establishing a wholesale grocery business. They were accompanied by Mr. Snodgrass, who was to have charge of the bank, but, owing to the death of Mr. Snodgrass, the bank part of the project was abandoned. Hanna, Garretson & Co. was the first grocery firm to handle sugar to a large extent in Cleveland. They also became interested in Lake Superior copper-mines, and in 1857 built a twin-screw propeller, named the City of Superior, being intended for the Lake Superior trade, and running between Cleveland and Superior City, then an important point, Duluth not having been thought of.

In 1858 this firm built the Northern Light to take the place of the City of Superior, which had been lost. The Northern Light continued to run until 1874, when she was dismantled, her engines being placed in new boats. In 1865 Hanna, Garretson & Co. built the Lac-La-Belle, a much larger and far superior boat to any then on the lakes. The Lac-La-Belle was sunk in St. Clair river by coming in collision with the



steamer Detroit, the sunken steamer being afterward raised and repaired and again put into commission.

In 1874 Marcus A. Hanna and H. M. Hanna organized the Cleveland Transportation Company in connection with the Cleveland Iron Mining Company, and in that year built two steamers and two schooners. The steamers were the Geneva and the Vienna. The schooners were the Genoa and the Verona. The Geneva was commanded by Capt. George P. McKay, and was lost on Lake Superior during her first year. The Vienna was lost in 1893. In 1874-75 this company built four more vessels, two schooners and two steamers. The steamers were the Sparta, which had a gross tonnage of 1,017, was 202 feet long and 34 feet beam; and the Havana, which had a gross tonnage of 1,041, was 205 feet long and 34 feet beam. The two schooners were the Sumatra, 845 tons, and the Helena, 894 tons, and which was afterward re-built and named the Amboy.

This line of boats ran for many years, engaged in carrying the products of the Cleveland Iron Mining Company under contract with the Cleveland Transportation Company. This company went out of existence in 1889, and the boats were sold to the Orient Transit Company, which was closed out in 1893, and during its existence the Vienna was sunk in a collision with the steamer Nipegon on Lake Huron, no life being lost. The Helena was sunk and one life lost.

The present firm of M. A. Hanna & Co. is the successor of Rhodes & Co., which was the successor of that of Rhodes, Card & Co., the latter being the great pioneer coal and iron firm of Cleveland. The Hanna brothers have for nearly half a century been closely identified with the development of lake commerce, and during all of this time they have kept on increasing their interests in vessel property. In 1873-4, as narrated above, they built a line of eight wooden vessels, known as the "Black Line," these eight vessels being the first to run on the lakes that were painted black. They were built to carry ore from Marquette to Cleveland, at \$3 and \$3.50 per ton, a

very high price when compared with the price paid for this same transportation at the present time, fifty cents per ton. These black boats were as follows: Steamers—Sparta, Havana, Geneva and Vienna, and schooners—Sumatra, Helena, Genoa and Verona.

These were all wooden vessels, and because of the short life of vessels constructed of this material, and also because of the reduction in the price of steel, the above line of boats were succeeded by others made of steel. The great interests of mines, docks, furnaces, etc., owned by the Hanna brothers, were in part acquired through the relations which the lake trade bears to the iron and steel business.

L. C. Hanna, youngest of the three brothers, has for several years past had charge of the iron and vessel business, and as a natural consequence has given more attention to the details of the business than either of the others. And like his elder brothers he has steadily pursued the wise policy of building up and keeping up a strong organization by placing in charge of the various departments over which he is superintendent, men of ability, and paying them liberal salaries. It is probably not too much to say that L. C. Hanna is at least as well informed as to the iron industry as any man connected with lake transportation, especially that part relating to mining and transporting ore.

*The Minnesota Steamship Company* was organized September 3, 1889, for the purpose of doing a general freighting business, but more especially for freighting the ores of the Minnesota Iron Company on the Great Lakes. Its incorporators were J. H. Hoyt, C. A. Neff, H. S. Sherman, A. C. Dustin and J. M. Shallenberger. Its first board of directors were: Jay C. Morse, C. P. Coffin, C. W. Hillard, James Pickands, J. H. Chandler, H. H. Porter and William R. Stirling. The first officers were: President, J. C. Morse; vice-president, James Pickands; secretary and treasurer, C. P. Coffin; executive committee: Messrs. Morse, Porter and Stirling. The capital stock when organized was \$500; now \$300,000 (authorized capital \$5,000,000). The

names of present officers of the company are: Samuel Mather, president; J. H. Chandler, vice-president; C. P. Coffin, secretary and treasurer.

The vessels owned by the company are the propellers Manola, 310 feet in length, 2,325 net tons, built in 1890; Mariska, 310 feet, 2,325 net tons, built in 1890; Maruba, 310 feet, 2,311 net tons, 1890; Matoa, 310 feet, 2,311 net tons, 1890; Marina, 308 feet, 2,431 net tons, 1891; Masaba, 308 feet, 2,431 net tons, 1891; Maritana, 330 feet, 2,957 net tons, 1892; Mariposa, 330 feet, 2,831 net tons, 1892; Maricopa, 400 feet, 3,669 net tons, 1896; barges Malta, 302 feet, 2,237 net tons, 1895; Marcia, 302 feet, 2,237 net tons, 1895; Manda, 352 feet, 3,121 net tons, 1896; Mariba, 352 feet, 3,121 net tons, 1896; Magna, 352 feet, 3,124 net tons, 1896.

The Minnesota Iron Company is perhaps the largest ore mining company on the lakes, its only rival being the Rockefeller-Carnegie interests. It was organized fifteen years ago to develop the Vermillion iron range of Minnesota, and its capital stock is \$16,500,000. Its holdings in mining property, now extended to the Mesabi range, covers hundreds of acres. It also owns and operates about 154 miles of standard-gauge railroad; five ore docks, equipped with 743 pockets of a capacity of 120,900 gross tons of iron ore, and nine steel steamers and five barges with a combined capacity for a single trip of about 50,000 tons. The railroad is operated by the Duluth & Iron Range Railroad Company, and the vessels by the Minnesota Steamship Company, both of which are controlled by the parent organization. Its seven mines, representing the developed property, have a producing capacity of 3,000,000 tons annually, and the railroad and docks can handle 3,500,000 tons.

The number of employes of the company in its mining operation varies from 1,500 to 3,000. In thirteen years which have elapsed since the first shipments from the Vermillion range the original hard-ore mines of this company have produced 5,169,071 gross tons of ore; the Chandler, another of its leading properties, has sent

out 3,793,007 tons; and its Mesabi mines, the largest known of which was discovered five years ago, and which have been shipping but three seasons, have produced 1,842,504 tons, making a total tonnage of 10,804,582 gross tons, or more than 12,000,000 net tons of iron ore handled by a concern only fifteen years of age. Not all of this ore, which represents a very heavy annual output, is moved by the fleet of nine steel steamers and five barges owned by the Minnesota Steamship Company. These vessels are capable of moving probably close to 1,000,000 tons in a season of navigation. The balance of the product is provided for by charter of vessels in which stockholders of the company are interested, and by the engagement of vessels also in the general market.

The five ore-shipping docks of the company at Two Harbors, Lake Superior, are fifty-seven to eighty-six miles from the mines. The railway system (Duluth & Iron Range Company) between mines and shipping docks is standard gauge, with 154 miles of main line and 60 more of side tracks, laid with 80-pound rails. At the ore shipping docks vessels frequently load and depart with a cargo of 3,500 or 4,000 tons within two hours from the time they reached port. One record has been made of 2,350 tons of ore loaded in 45 minutes. From 15,000 to 40,000 tons of ore are handled daily at Two Harbors.

*The Republic Iron Company* was organized in 1870 under the laws of the State of Michigan, with a capital of \$500,000, which has since been increased to \$2,500,000. The incorporators were as follows: Edwin Parsons, Jonathan Warner, John C. McKenzie, Edward Breitung and Samuel P. Ely. The purpose for which this company was organized was to handle the iron ore of the company at Republic, Mich., and the shipping of the ore to Lake Erie ports. The first boat loaded by this company reached Cleveland in 1872, and the business was carried on in this way, the ore being carried to market in other people's vessels until 1881, when they brought the schooner Grace Holland, and built the steamer Republic, the latter being now known as the

steamer Marquette. The Grace Holland is 189 feet long and 33 feet wide, and has a tonnage of 629. She is still owned by this company. The Marquette is 235 feet long, and 35 feet wide, and has a gross tonnage of 1,343. She was sold to J. W. Moore and others in 1892.

In 1882 this company built the steamers Continental and Colonial, the latter of which has a tonnage of 1,501 gross, and the former, 1,506. At the same time they built the consorts, Specular and Magnetic. Each of these vessels is 264 feet long and 38 feet wide, and has a gross tonnage of 1,676, except that the Specular is now a steamer and has a tonnage of 1,741. The company next, in 1890, built the steel steamer Republic, which has a gross tonnage of 2,316, is 291 feet long and 40 feet wide. The Colonial was sold, in 1892, to J. W. Moore and others.

The board of directors of this company at the present time are: H. B. Perkins, Peter White, G. W. R. Matteson, J. V. Painter, Samuel Mather, A. Hart, W. D. Rees, N. M. Kaufman and W. F. Dumner. The officers are as follows: W. D. Rees, president and treasurer; H. B. Perkins, vice-president; and W. D. Castle, secretary. The wooden boats of this company have all been built in Cleveland, by Presley & Co., with the exception of the Grace Holland, which was built at Bay City, Mich. The steel steamer Republic was built by the Globe Iron Works Company.

*The Menominee Transit Company* was organized in 1890 by Ferdinand Schlesinger, M. A. Hanna and H. M. Hanna, being incorporated under the laws of Ohio. Mr. Schlesinger was the controlling owner of the Chapin Mining Company, of whose ores M. A. Hanna & Co. were the sales agents. The Menominee Transit Company was organized with the view of building about ten steamers for the purpose of carrying the ores of the Chapin mine, and of carrying on outside business, when there should not be ore enough to be handled to keep the steamers busy. An order was at once placed with the Globe Iron Works Company for the building of six steel steamers, the first of which steamers, the Norman, came out in

the fall of 1890. She made six or seven trips that fall, and was lost in collision with the steamer Jack, on Lake Huron, May 30, 1895.

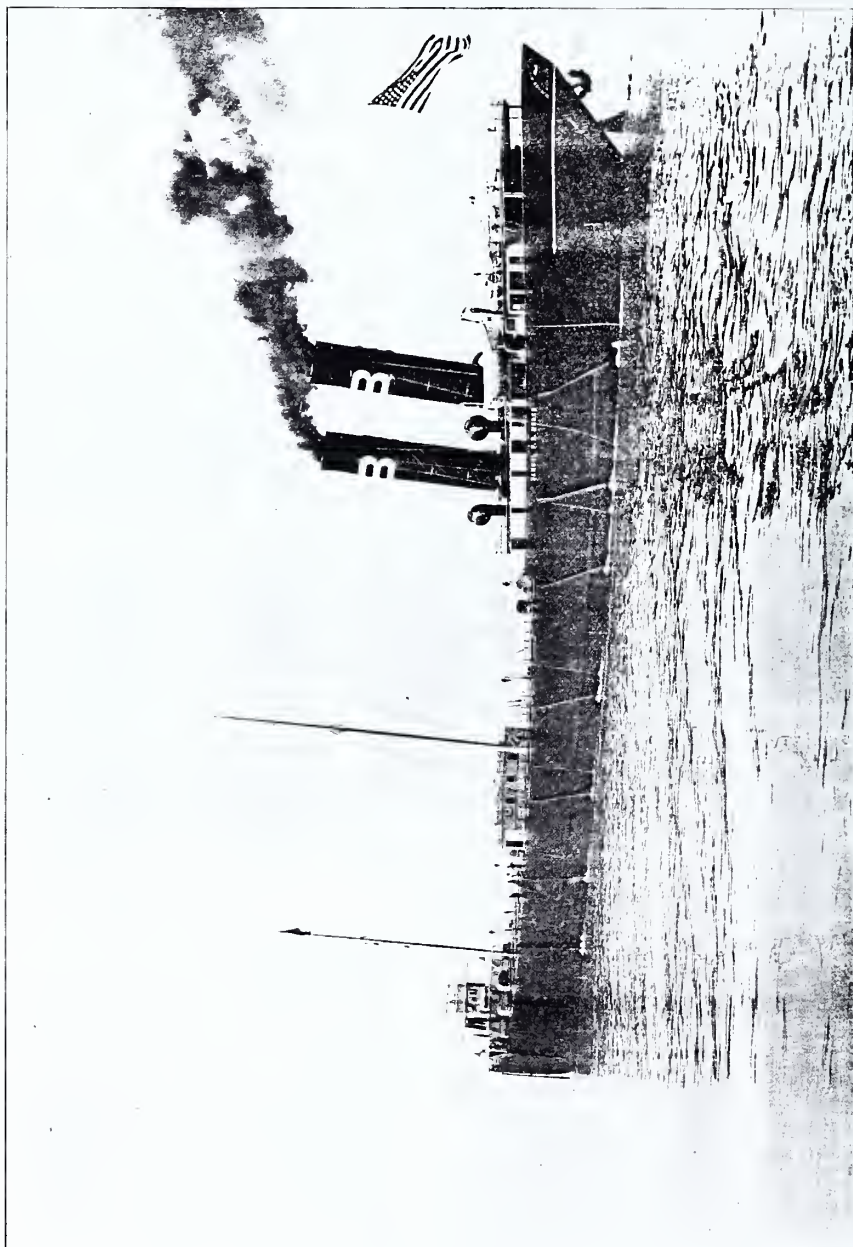
The other steamers were all ready for business and all in commission by August 1, 1891. These steamers were, in the order in which they were completed, the Saxon, German, Briton, Grecian and Roman. They were all built on the same model and dimensions, and were 312.5 feet long, 40 feet beam and 24½ feet deep, or, according to custom-house measurement, 296.2 feet long; 40.4 feet beam, and 21.1 feet in depth; gross tonnage of each 2,348 tons, net or registered tonnage, 1,875 tons. These boats continued to carry the ores of the Chapin Mining company until the failure of that company in 1893, when the Menominee Transit Company and its six steamers went into the control of the builders of the boats. The boats have since been managed by M. A. Hanna & Co. They are all of steel, and at the time they were built were of the largest class. The carrying capacity of each, which all vessel men understand, differs from the registered capacity, is 3,100 gross tons and fuel in addition, on a draught of seventeen feet of water. Mr. Schlesinger, after the failure of his company, went to Mexico, purchased a silver mine, which he operated a few years, and is now the owner and operator of a mine on Lake Superior.

The officers of the Menominee Transit Company are as follows: Leonard C. Hanna, president; George P. McKay, general manager, H. M. Hanna, treasurer, and J. J. Purcell, secretary.

*The Bessemer Steamship Company* is one of the most recent and is the most powerful transportation company on the lakes. It represents the Rockefeller interests, is closely affiliated with some of the largest iron-mining properties in the Northwest, and with the Carnegie Steel Company, the largest producer of steel in the world. The Bessemer Steamship Company was organized in 1896. Its officers are: F. T. Gates, president; George D. Rogers, treasurer; L. M. Bowers, general manager. The capital invested was originally \$3,000,000, and \$1,000,000 has since been added. The num-







LARGEST VESSEL ON THE LAKES—PROPELLER SAMUEL F. B. MORSE.

ber of vessels owned is 21. Their actual carrying capacity per trip is about 100,000 gross tons. They average 20 trips per season between Duluth, Chicago and Lake Erie ports, and will, therefore, carry annually about 2,000,000 gross tons. As a rule they do not carry cargoes up the lakes. This magnificent fleet is named from 21 famous inventors, as follows:

Steamers—Henry Cort, James B. Neilson, Sir Henry Bessemer, Sir William Siemens, James Watt, John Ericsson, Sir William Fairbairn, Robert Fulton, George Stephenson, Samuel F. B. Morse. Barges—Sir Joseph Whitworth, John Scott Russell, George H. Corliss, Sir Isaac Lothian Bell, Alexander Holley, James Nasmyth, Alfred Krupp, Sidney G. Thomas, Wm. Le Barron Jenney, John Fritz, John A. Roebling.

The propeller Morse is the largest vessel on the lakes. She is 476 feet in length, over all, 50 feet beam and 30 feet deep, with quadruple engines, 3,000 h. p.

Her capacity is 7,500 net tons on a mean draft of 17 feet, 2 inches. Her capacity is exceeded by the barges Fritz and Roebling, each of which is 456 feet over all, 50 feet beam, 29 feet deep, and has a capacity of 8,000 net tons on a draft of 17 feet, 2 inches.

#### THE LINE COMPANIES, ETC.

Sketches are herewith presented of the principal line companies now in operation:

*The Union Steamboat Company.*—The history of the Union Steamboat Company dates back to the year 1851, in which year the New York & Erie railroad was completed to Dunkirk. At that time the management of this railroad began to take into consideration the advantages to be derived from facilities upon the Great Lakes in its interest, and in 1852 this management had under charter certain side-wheel steamers, to-wit: Keystone State, Niagara, America and Empire. These steamboats were used, however, for only a short time, for the reason that screw steamers were better suited to the service, and the vessels of this type, including the California, Genesee Chief, Paugasset, Princeton and Oregon

were taken into service. In subsequent years the fleet was largely extended and steamers of the same type were chartered, among them being the Owego, Portsmouth, Susquehanna and Indiana.

The first screw ship which the company built was the Jersey City, built in Cleveland and coming out in 1854. She was followed by the building at the same point of the Olean and the Almira, completed in 1856, and the New York, built the same year in Buffalo. The Canisteo and the Passaic were built in Buffalo in 1862, and in the same year the Tioga was built in Cleveland. These were all wooden steamers, and of the first class for their times, ranging from 550 to 600 tons capacity, the two former being slightly the larger. The Wabash, launched in 1863, was the last steamer built by the Erie Railway Company previous to the organization of the Union Steamboat Company. About the same time the Governor Cushman and Marquette were in the company's fleet by charter, and were of the same type of steamer and about the same size of the other screws named. These steamers up to 1869 were used in the traffic of the Erie Railway Company upon Lake Erie only, and constituted lines to Cleveland, Toledo and Detroit.

Early in 1869 a combination was made of different lines of lake steamers and the organization of a corporation under the laws of the State was made, which constituted "The Union Steamboat Company," the purpose of which was to create a forwarding lake line and feeder to the Erie Railway Company, and to extend the operations of such line to Lake Michigan and Lake Superior. It has fulfilled that purpose in a most efficient manner, and has been a powerful instrument and ally of the railway company. At first the stock was not wholly owned by the Erie Railway Company, but subsequently that company acquired the whole property.

At the time of the organization the fleet consisted of sixteen steamers, all of which have since gone out of the possession of the company, or gone out of existence, mainly the former by sale to outside parties, so that



not one of the original fleet of the company is now its property.

In 1869 the company completed its first steamer after its organization. This was the steamer Jay Gould, with a carrying capacity of 1,000 tons. In 1870 it built two steamers, the B. W. Blanchard and the James Fisk, Jr., each having a carrying capacity of 1,200 tons. In this same year the company purchased the steamers Galena, Winona and Mendota. These steamers carried 600 tons each. In 1871 the steamer Newburgh, with a carrying capacity of 1,350 tons, was completed. The Dean Richmond, a steamer with a capacity for 1,500 tons, was purchased in 1870, burned in 1871, and thoroughly rebuilt and put in commission in the spring of 1873. The steamer Waverly was built in 1874. She had a carrying capacity of 1,200 tons. In 1875 the steamer Starrucca was built, with a carrying capacity of 1,500 tons. This steamer was stranded on Lake Superior in November, 1888, and became a total wreck. In 1875 the steamer Portage, with a carrying capacity of 1,900 tons, was built, and in 1878, the steamer Avon, with a carrying capacity of 2,100 tons. Also in 1878 the steamer Nyack, a very fine passenger steamer, with a tonnage capacity of 1,250, and accommodations for 150 passengers, was completed. In 1879 the steamer New York, with a carrying capacity of 2,200 tons was built. In 1880 the steamer Rochester, with a capacity of 2,400 tons, was built, and in 1882 the first metal steamer built by the company was completed. This was the H. J. Jewett, which has a carrying capacity of 2,400 tons. In 1885 the Tioga, the next metal steamer, was completed, with a carrying capacity of 2,650 tons, and in 1888 the twin steamers Owego and Chemung were built, each having a carrying capacity of 2,550 tons. Some of the names of the earlier steamers have been duplicated in naming later steamers of the fleet.

In 1872 the Union Steamboat Company became interested in the Union Dry Dock Company by the purchase of one-fourth of the stock of that company. Subsequently it became the owner of the entire stock,

and all the steamers built by the company since 1872 have been built in the yards of that company.

In the year 1869, in which the company was organized, the following lines were maintained: One between Buffalo, Chicago and Milwaukee, of seven steamers; one between Buffalo, Cleveland and Toledo, of six steamers; one between Buffalo and Detroit, of six steamers; and one between Buffalo and Lake Superior ports of two steamers. Several of these steamers were under charter, and not the property of the company. In the following year, 1870, the line between Buffalo and Chicago was increased to twelve steamers. The Buffalo and Toledo line remained the same, as did the line from Buffalo to Detroit, and that from Buffalo to Lake Superior.

In 1871 the Buffalo and Lake Superior line was increased to five steamers, the other lines being continued with the same number of steamers as the year before. The same arrangement was continued in 1872, with the exception of the Detroit line, which was diminished by the withdrawal of three steamers.

In 1872 the Union Steamboat Company, and the Atlantic, Duluth & Pacific Lake Company, the latter an institution organized by the Erie & Western Transportation Company, made a coalition to run a joint line between Buffalo and Lake Superior. This line consisted of 11 steamers, mainly contributed by the two interests named, though several steamers owned by outside parties were taken into this fleet. This arrangement was maintained for one season only, both of the parties in interest abandoning Lake Superior for the year 1873, to be renewed again in 1874, though the line was largely reduced and consisted of but three steamers, two of which, the Arctic and the Pacific, were contributed by the Union Steamboat Company, and the Winslow, by the Erie & Western Transportation Company. In the year 1873 the Union Steamboat Company, by contract with the Green Bay & Minnesota Railroad Company, ran a line to Green Bay in connection with that road, which contract was for a term of years; but was terminated before the ex-

piration of the contract in 1877, by the bankruptcy of the railroad company in question, and the line was withdrawn. In 1875, 1876 and 1877 the Lake Superior arrangement continued with the same fleet, except the addition of one steamer, making four in all.

In the winter of 1877-78 a new arrangement for doing Lake Superior business was perfected, and an organization was incorporated under the laws of the State of New York, entitled "The Lake Superior Transit Company," the parties to which were the Union Steamboat Company, the Erie & Western Transportation Company, and the Western Transportation Company. This organization owned no steamboats, but provided that each of the institutions interested should charter to the Lake Superior Transit Company such of its steamers as were fitted for the business. This arrangement continued until the winter of 1889-90, when the Union Steamboat Company withdrew from it entirely, selling its stock to the other parties in interest.

In 1878 distinctive and separate lines were discontinued to Cleveland, Toledo and Detroit. For some years afterward business to Lake Erie ports was done by through lines, but latterly none of the steamers of the through line to Chicago and Milwaukee has stopped at any way ports.

The present fleet of the Union Steamboat Company consists of the following named steamers with capacity as stated: Ramapo, 4,000 tons; H. J. Jewett, 2,400 tons; Chemung, 2,600 tons; Rochester, 2,400 tons; Owego, 2,600 tons; New York, 2,200 tons; Tioga, 2,600 tons—making the aggregate capacity, 18,800 tons.

The Union Steamboat Company was organized February 3, 1869, and was merged into the Erie Railroad Company June 30, 1896. The following officers of the company from the organization to the present time, have been as follows: Presidents—Jay Gould, February 4, 1869, to April 3, 1872; A. S. Diven, April 3, 1872, to January 30, 1873; P. H. Watson, January 30, 1873, to January 13, 1875; G. R. Blanchard, January 13, 1875, to February 2, 1876; S. S. Guthrie, February 2, 1876, to December 4,

1884; John King, December 4, 1884, to June 14, 1895; E. B. Thomas, June 14, 1895, to the present. Treasurers—E. A. Buck, February 4, 1869, to April 3, 1872; William Watts Sherman, April 3, 1872, to January 30, 1873; William Pitt Shearman, January 30, 1873, to June 14, 1878; C. G. Barber, June 14, 1878, to March 29, 1881; B. W. Spencer, March 29, 1881, to February 3, 1885; Edward White, February 3, 1885, to the present. General Managers—S. D. Caldwell, 1869 to 1873; Washington Bullard, 1873 to October 30, 1896; Charles Paine, appointed assistant general manager September 1, 1896. Washington Bullard died October 30, 1896, and on November 4, 1896, the office of assistant general manager was abolished, and Charles Paine was appointed general manager.

*The Western Transit Company* was incorporated in 1855 as the Western Transportation Company, with a large capital, and soon afterward had a full line of boats running both on the Great Lakes and on the Erie canal. They had twenty propellers, six sailing vessels and 200 canal boats. Ever since its incorporation it has been engaged in carrying freight and passengers on the lakes, and freight upon the Erie canal, its vessels running in connection with the New York Central & Hudson River railway. In 1864 it had the following vessels: Empire State, Badger State, Oneida, Mohawk, Plymouth, Tonawanda, Free State, Poto-mac, Racine, Neptune and Mayflower.

The boats of this company, one or more of them, leave Buffalo daily through the season of navigation, for Milwaukee, Chicago, Cleveland, Detroit, Port Huron, Mackinac, Port St. Ignace, Sheboygan and all other principal points on the lakes. Through bills of lading are made out for European ports, and a general forwarding and transportation business is carried on.

In 1880 John Allen, Jr., was president and general manager of this company, and John L. Williams, secretary and treasurer. The presidents of this company have been G. L. Douglass, John Allen, Jr., John H. Rutter, and Sherman S. Jewett, the latter of whom died in the month of February, 1897. S. D. Caldwell, who had been gen-

eral manager of the company since 1883, resigned that position in January, 1896, and was succeeded by G. L. Douglass, the present general manager. The secretary and treasurer of the company since the reorganization, or since the organization of the Western Transit Company, in 1883, has been E. B. W. Rossiter.

This company now owns fifteen steamboats, all engaged in the freight business, and charters two others for the same business. Those owned by the company are as follows: Arabia, an iron boat built at Buffalo, in 1873, net registered tonnage 1,203; Badger State, a wooden steamboat, built in Buffalo in 1862, and of 917 net registered tons; Boston, an iron steamboat built in 1880, at Wyandotte, Mich., and of 1,669 net registered tons; Buffalo, a wooden steamboat, built at Cleveland, in 1878, and of 1,662 net registered tons; Chicago, a wooden steamboat, built in Cleveland, Ohio, in 1879, and of 1,721 net registered tons; Commodore, a wooden steamboat, built in Cleveland, in 1875, and of 1,927 net registered tons; Empire State, a wooden steamboat, built in Buffalo, in 1862, and of 962 net registered tons; Harlem, an iron steamboat, built in Wyandotte, Mich., in 1888, and of 1,858 net registered tons; Hudson, an iron steamboat, built in Wyandotte, Mich., in 1888, and of 1,853 net registered tons; Idaho, a wooden steamboat, built in Cleveland in 1863, and of 906 net registered tons; Milwaukee, a wooden steamboat, built in Cleveland in 1879, and of 1,571 net registered tons; Mohawk, a steel steamboat, built in Wyandotte, Mich., in 1893, and of 1,616 net registered tons; Montana, a wooden steamboat, built at Port Huron, Mich., in 1872, and of 1,382 net registered tons; Syracuse, a steel steamboat, built at Wyandotte, Mich., in 1884, and of 1,677 net registered tons; and the Vanderbilt, a wooden steamboat, built at Port Huron in 1871, and of 1,157 net registered tons. The two chartered boats are the Kearsarge, a steel steamboat, built at Chicago in 1894, and of 2,721 net registered tons, and the W. H. Gilbert, a steel steamboat. Freight connections are made with all the principal points on the lakes.

*The Erie & Western Transportation Company*, of which the Anchor Line is the sub and better-known title, is the lake connection of the Pennsylvania railway. It was incorporated under the laws of Pennsylvania June 21, 1865, the first board of directors being James S. Swartz, George S. Bonnell, George B. McCulloch, A. P. Hepburn and W. I. Gayley, the election taking place February 5, 1867. The capital stock was at first \$500,000, which was increased to \$2,000,000 in April, 1872, and to \$3,000,000 in June, 1881. On July 1, 1892, it issued \$750,000 in five per cent. mortgage bonds, which are still outstanding.

The company has a large fleet of freight and passenger steamers on the lakes, and owns or controls docks, warehouses and elevators at Buffalo, Erie, Chicago and Milwaukee, besides doing a large business in Duluth. Among its eastern connections are the Pennsylvania, Baltimore & Ohio and West Shore railways. It also has an important connection in the Erie canal. Formerly a large canal line was operated in direct connection with the line, but it was not found to be profitable, and was sold early in the nineties.

The line maintains agents at all important points connected with the lake trade, and issues through bills of lading to and from foreign ports. The principal office is in Philadelphia, but the management is in Buffalo. Following are the vessels of the line that are now lost, sold or out of commission: Metal steamers, Philadelphia, Merchant; wooden steamers, Salina, Thos. A. Scott, Winslow, Arizona, Prindiville, Annie Young; tug Erie; schooners, Gardner, Keepsake, Annie Sherwood, Schuylkill, Allegheny, C. H. Weeks. The Winslow was burned October 3, 1891; the Annie Young October 20, 1890; the Arizona was partially destroyed by fire November 17, 1887, but was rebuilt next year, having passed into other hands. The Scott was lost October 29, 1880, after having been changed to sail; the Merchant was lost in October, 1875. The Philadelphia was lost in collision with the Albany of the Western Transit line November 7, 1893, the greatest accident in the decade, as 16 of her crew



and eight of the crew of the Albany were drowned. The other vessels mentioned above were sold at various times. The only marine disasters sustained by the line were in the loss of the Philadelphia and the Annie Young, nine of the latter's crew having been lost in a boat by which they sought to reach shore.

The present fleet of the line is composed of the metal passenger and freight steamers India, China and Japan, now in the Lake Superior trade; the metal freight steamers Alaska, Lehigh, Clarion, Susquehanna, Codorus, Schuylkill and Mahoning; and the wooden steamers Gordon Campbell, Wissahickon, Delaware, Conestoga, Juniata, Lycoming and Conemaugh. It is the established policy of the company to maintain its vessel property in the best possible condition by frequent rebuilds of the hulls and upper works and the replacing of the machinery.

The presidents of the line were James S. Swartz, elected February 5, 1867; Joseph D. Potts, elected February 20, 1869; and Frank J. Firth, elected June 7, 1872, the present incumbent. The other officers are E. T. Evans, Western manager; John E. Payne, Eastern manager; P. R. Perkins, treasurer; Frank Staley, secretary; F. Hoffman, auditor, and John A. Miller, assistant auditor. The management of this line was first placed in the hands of John E. Payne, who was succeeded as Western manager by E. T. Evans on April 21, 1873, having been the manager of the Atlantic, Duluth & Pacific Lake Company.

*The Northern Steamship Company* was incorporated in 1888, under the laws of the State of Wisconsin, with a capital stock of \$2,000,000, James J. Hill, of St. Paul, becoming president, and W. P. Clough, of St. Paul, vice-president, while John Gordon took charge of the company's affairs at Buffalo. This company at once began business upon the completion of its fleet of steel freight steamships. Through this line Buffalo became directly connected with Duluth, and through this line four great Eastern railroad lines became directly connected with the Great Northern railroad, which runs thence to Everett and Seattle on the Pacific coast,

thus forming a closely connected through line for freight from the Atlantic seaboard to the Pacific.

This fleet of freight steamers was completed and placed in commission in 1889, and consists of the following propellers: North Wind, North Star, Northern Queen, Northern King, Northern Wave, and Northern Light. They were all built by the Globe Iron Works Company, of Cleveland, Ohio, and are each of about 2,500 tons burden. They are strong, substantial, steel vessels, of fine model, fast and seaworthy. A description of one of them is a description of all, for they are all built on the same model. Each is of 2,476 gross tons; 299.5 feet long; 40.8 feet beam, and 21.6 feet depth of hold. The estimated horsepower of each is 1,200.

At Buffalo the company's regular trunk line connections are the Lehigh Valley and Erie railroads at the Delaware, Lackawanna & Western dock; it has also fine docks at Cleveland, West Superior and Duluth. In the fall of 1896 the company completed at Buffalo a lake freight house 1,000 feet long.

While John Gordon was in charge of the company's business at Buffalo, he was assisted by the following gentlemen: Stewart Murray, general freight agent; Capt. J. H. Killeran, marine superintendent; Duncan Frazer, superintending engineer; W. J. Stewart, auditor, succeeded by A. M. Thomas; T. P. Carpenter, general passenger agent, succeeded by A. A. Heard; and W. S. Canright, purchasing agent. Mr. Gordon retired from his position in the fall of 1895, and was succeeded by W. C. Farrington, vice-president. Francis B. Clarke is now general traffic manager. The other officers of the company in Buffalo and elsewhere are as follows: Stewart Murray, of Buffalo, general freight agent since 1892; I. M. Bortle, general passenger agent; Capt. W. C. Brown, of Buffalo, marine superintendent, succeeded by James Brodie; Howard James, of Duluth, purchasing agent; F. C. Cruger, of Duluth, assistant auditor; L. H. Wood, of Duluth, cashier.

To the traveling public the greatest interest attaches to the two fine passenger

steamships, built for this company by the Globe Iron Works Company of Cleveland, and named the North West and the North Land. The determination to build these steamers was reached in the spring of 1892, and in August of that year the keel of the North West was laid. Not long afterward the construction of the North Land was begun. The object in building this line of steamers was to give to the passengers thereof a rapid voyage from Buffalo to Duluth, free from the delays and annoyances incident to the loading and unloading of freight. This has been successfully accomplished, and on these fine steamers passengers enjoy all the conveniences and comforts to be found on any of the great Trans-Atlantic liners.

The North West and the North Land are built exactly alike, and a description of one answers for a description of the other. Each is 383 feet long over all; 360 feet long between perpendiculars; 44 feet beam, and 34 feet 5 feet inches deep to spar deck. The load draft is 14 feet, and the load displacement 4,482 tons. The gross registered tonnage of each is 4,244, and the net registered tonnage 2,340. The main engines of each boat have eight steam cylinders, two high pressure ones, each 25 inches in diameter; two first intermediate, 36 inches in diameter; two second intermediate, 51½ inches in diameter, and two low pressure, 74 inches in diameter, the stroke in each case being 42 inches. The indicated horse power is 7,000, and the steam pressure 195 pounds. At 120 revolutions the speed is calculated at twenty miles per hour.

When the builders and owners of the North West decided to adopt the quadruple expansion type of engine, this type of engine had up to that time throughout the world been confined to yachts and other small craft of high power, and this vessel was the first of large tonnage to be thus equipped. Since then the Cramps of Philadelphia have adopted them in American line ships.

There are 28 boilers in each vessel, of the Belleville type, with an aggregate heating surface of 25,760 square feet. To sum up, there are on each boat 65 steam cylin-

ders, 26 pump cylinders, 6 centrifugal pumps, 6 fan blowers, 3 dynamos, 1 electric elevator, and 1 hand steerer, the steamers being, of course, under ordinary circumstances steered by steam. The refrigerating machinery is of 8 tons capacity in 24 hours, and is so arranged as to cool all compartments in which perishable provisions are kept. The machine is arranged to manufacture 1,000 pounds of ice daily for use on shipboard, and the system for cooling the provision rooms is known as the direct expansion system. Of all systems in use it is considered the most economical and efficient.

There are three decks to each vessel—main, saloon and spar—and the total capacity of each ship is 540 passengers. The distance is 1,000 miles, and the schedule time from Buffalo to Duluth, including stops at Cleveland, Detroit and Mackinac island, was, in 1896, from 9:50 P. M. on Tuesday or Friday to 5 P. M. on Friday or Monday. The fastest time between the two cities so far made by either of these boats is 63 hours, including stops, and excluding stops, 59 hours and 30 minutes. The fastest time has been made on Lake Superior, within a fraction of 22 miles per hour, which is very fast when it is considered that the draft is about 16 feet.

*The Great Lakes Steamship Company* was organized for business in the spring of 1896, by Gen. John Gordon and A. R. Atkins. At that time they purchased the steel steamer *Globe*, which was built at Cleveland, Ohio, in 1894. This fine vessel is of 2,996 gross tons burden, and 2,279 tons; is 330.4 feet long, 42 feet beam and 24.3 feet deep. She is valued in Lloyds at \$195,000. In the spring of 1897 three other first-class steamers were put into service: the *J. W. Moore*, of 2,500 tons; the *Olympia*, of 2,500 tons; and the *Charlegagne Tower, Jr.*, of 2,200 tons.

During the season of 1896 the *Globe* operated between Buffalo and Cleveland, and Manitowoc, and the entire fleet of four steamboats run in connection with the Wisconsin Central lines at Manitowoc, Wis., and they make connections with various trunk lines on Lake Erie. The Great

Lakes Steamship Company is not a member of the lake pool, and it is the design to run its boats independently. The office of the company is in Buffalo.

*The Lehigh Valley Transportation Company* is owned by the Lehigh Valley Railroad Company, and was organized in 1881, in which year the following boats were purchased and put into service: The R. A. Packer, of 1,300 tons; the Oceanica, of 2,000 tons; the Clyde, of 1,800 tons; and the Tacoma, of 2,200 tons. In 1882 the following boats were added: The H. E. Packer, of 1,700 tons; and the F. Mercur, of 1,700 tons. In 1888 the following were added: The E. P. Wilbur, of 3,000 tons; in 1889 the Seneca, of 3,000 tons; and in 1890 the Saranac, of 3,000 tons, and the Tuscarora, of 3,000 tons. These boats run regularly between Buffalo and Chicago and Milwaukee, and occasionally one of them goes up to Lake Superior. Capt. W. P. Henry is the manager of the line, with his office in Buffalo.

The dockage of the Lehigh Valley Railroad Company, which owns the Lehigh Valley Transportation Company, is at the present time 52 per cent. of the dockage of the entire Buffalo harbor. The length of its canal excavation is 8,100 feet, made at a cost of \$325,000. It has constructed 1,600 feet of canal to connect the the system of canals on the Tift farm property with the city ship canal, and 1,700 feet of additional canal outside of the Tift farm to make connection with Buffalo creek, a total of 11,400 feet of canal.

It has completed 9,280 feet of dock on the Tift farm, at a cost of \$200,000, and 1,935 feet on the city ship canal, at a cost of about \$75,000. In addition to this it has constructed 2,700 lineal feet of freight houses on the docks at a cost of \$140,000, and in addition to this, 1,880 feet of dock are used as a coal trestle, which cost \$235,000; 3,575 feet of lumber docks, which cost about \$225,000, and 1,000 of ore docks, which cost about \$175,000, and it has spent \$110,000 in hoisting machinery on the ore docks. It also has 6,213 feet of feet of frontage on Lake Erie proper, ad-

joining the Tift farm, which lake frontage has been ripped up at a cost of \$49,000. Every dock has railroad facilities to an aggregate of 20.6 miles of road, owned by the Lehigh Valley Railroad Company, and which cost about \$10,000 per mile, exclusive of the cost of the land.

The freight exchanged on the docks of this company during the season of 1896, which closed November 30, was as follows: With the Lehigh Valley Transportation Company, east bound, 169,868 tons, west bound, 58,705 tons. The total amount exchanged with all the transportation companies with which it connects, was 372,230 tons of east bound freight, and of west bound, 90,719 tons. The transportation companies included in this exchange were the Lehigh Valley, the Union Transit company, the Northern Transit Company, the Lake Erie Transportation Company, the Clover Leaf Line, the Soo Line and a few miscellaneous lines. The increase in the amount of freight handled in 1896 over 1895 was 85,887 tons.

The ore movement in 1896 amounted to 74,585 tons, and the grain freight for the season was something phenomenal, greater than ever before in the history of lake commerce, 37,000,000 bushels. The total number of boats that loaded and unloaded at the docks of the Lehigh Valley Railroad Company during the year 1896 was 853, of which 463 were east bound, and 390 west bound.

The Clover Leaf Steamboat Line is operated in connection with the Toledo, St. Louis & Kansas City railroad, which has its termini at St. Louis and Toledo. For some years before the establishment of this steamboat line the railroad company had been aware of the fact that in order to compete successfully with other roads on east and west bound through traffic it was necessary that a lake line be established and operated by them for the transportation of freight between Buffalo and Toledo, which would practically extend their mileage about 250 miles, and enable them to interchange business with all the trunk lines at Buffalo.

With this object in view the railroad



company chartered two package freight steamers to ply between these two points, and designated the lake line, the "Clover Leaf Steamboat Line." A representative of this leaf was used in every possible way in order to attract the attention of the public. All stationery was stamped with that leaf, and all its freight cars showed it upon their sides, the same sign being painted on the smoke stacks of its steamers.

The steamboat line was established April 11, 1890, and it has been found very profitable, both for the railroad and for the steamboat line. Business has increased every year, and each season the company has been obliged to charter steamers outside of the regular ones. These steamers run in connection with the West Shore railroad, the Lehigh Valley railroad, the Erie railroad, the Delaware, Lackawanna & Western railroad, and the New York Central. The line occupies docks at the foot of Mississippi street, 178 feet on Buffalo river, and about 80 feet on the Clark & Skinner canal, with offices in the Marine building.

In 1890 the company chartered the propellers Dean Richmond and Roanoke. On her first trip for this company, the Roanoke took fire and was considerably damaged, and for the rest of the season the Osceola was chartered instead. In 1891 the Dean Richmond and the John Pridgeon, Jr., were chartered; in 1892, the John Pridgeon, Jr., and the B. W. Blanchard; in 1893 the same two as in 1891, and also the A. A. Parker and the B. W. Blanchard; in 1894 the John Pridgeon, Jr., and the B. W. Blanchard; in 1895 the same two boats regularly and the J. S. Richards and Norwalk for occasional trips; in 1896 the B. W. Blanchard and the F. & P. M. No. 5, owned by the Flint & Pere Marquette Railroad Company.

On October 14, 1893, the Dean Richmond, with an east-bound cargo of merchandise, foundered off Dunkirk in a gale blowing 65 miles per hour, and was lost, together with her entire crew of 18 men. She was at the time commanded by Capt. George W. Stoddard, of Toledo, Ohio, a most competent master, who had sailed the lakes nearly his whole life, who had commanded some of the finest boats on the lakes, and

who intended to retire at the close of that season. The first mate was Walter W. Goodyear. The vessel and cargo were a total loss, the latter being insured for \$40,000 and the former for \$46,000.

The Union Transit Company in the spring of 1892 purchased the steamers Avon and Portage, from the New York, Lake Erie & Western Railroad Company, for the purpose of organizing a line from Buffalo to Duluth, stopping at Cleveland, Detroit, Port Huron, Sault Ste. Marie, and all the south shore ports on Lake Superior. In addition to the above named steamers they chartered the steamers J. C. Ford and Nyack, making a line of four steamers, which are operated during the season in connection with the New York, Lake Erie & Western railroad, the Lehigh Valley railroad, and the Delaware, Lackawanna & Western railroad, at Buffalo, and the Eastern Minneapolis railroad at Duluth. During the seasons of 1893 and 1894 the company chartered several other steamers to run in its line.

In the spring of 1895 the steamers John M. Nicol, John T. Moran, Eber Ward, W. H. Stevens, and James Fisk, Jr., were chartered for a term of years from the Crescent Transportation Company, the line thus having a line of seven steamers, the rail connection at Buffalo being the same as when the company was first organized, but arrangements were perfected with the Chicago, St. Paul, Minneapolis and Omaha railroad and the Northern Pacific railroad as well as the Eastern Minnesota and the Great Northern railroad, for the interchange of traffic at the head of the lakes.

During the month of September, 1895, the Union Transit Company was incorporated under the laws of the State of New York, with a paid up capital of \$200,000, and H. C. French was elected president and general manager of the company, with Theodore H. Myers, secretary and treasurer. Since February, 1896, Alvin S. French has been vice-president. During the spring of 1896 the company purchased from the Crescent Transportation Company the five steamers which they had under charter from that company, paying therefore \$230,000.

The present fleet of the company consists of the following steamers: Avon, 2,100 tons; John V. Moran, 1,500 tons; John M. Nicol, 2,000 tons; William H. Stevens, 1,500 tons; Portage, 1,900 tons; Eber Ward, 1,500 tons; James Fisk, Jr., 1,400 tons; aggregate capacity, 12,000 tons.

The railroad connections of the Union Transit Company at Buffalo are the Erie, Lehigh Valley, and Delaware, Lackawanna & Western, and at Duluth and West Superior, the Chicago, St Paul, Minneapolis and Omaha, St. Paul and Duluth, Eastern Minnesota, Northern Pacific and Great Northern railroads. In Buffalo the company's offices are in the Ellicott Square building.

*The Lake Erie Transportation Company*, commonly known to marine men as the Wabash Lake Line, is owned and operated by the Wabash Railroad Company. A. W. Colton, of Toledo, is president and general manager, and R. H. Hebard, agent at Buffalo. This company was organized about 20 years ago. Its principal trade, east, consists of grain and flour; and west, of general merchandise, connecting at Buffalo with the Erie, Lehigh and Lackawanna railroads.

The Wabash line own and operate the steamers: Geo. J. Gould, S. C. Reynolds, Russel Sage, and John C. Gough. When the steamer Gould was built in 1893, the A. L. Hopkins, formerly owned by the company, was taken in trade by the Union Dry Dock Company, of Buffalo. The steamer Morley, also one of its boats, went ashore at Grand Marie, Lake Superior, in 1887. She was recovered the following spring, taken to Detroit, and there sold to Grand Traverse parties, who rebuilt and christened her the Grand Traverse. Some time afterwards she was bought by the Lackawanna Transportation Company, and put in the Green Bay service. In this line she ran until the fall of 1896, when she was sunk by collision at Bar Point.

*The Minneapolis, St. Paul & Buffalo Steamship Company*, commonly known as the "Soo Line," is incorporated at Minneapolis, and was organized in 1890. The company at the present time operates four

steamers, running between Gladstone and Buffalo. At the latter port they connect with the Erie, Lackawanna, and the Lehigh railroads. East bound the principal trade consists in grain and flour, while west-bound boats stop at Cleveland and carry general merchandise. The general offices of the company are in Buffalo, and R. H. Hebard is general manager.

*Cleveland and Buffalo Transit Company*.—For many years prior to 1892 Lake Erie was without a daily line of steamers between Cleveland and Buffalo; while passenger boats on routes between Buffalo and Lake Michigan and Lake Superior ports occasionally stopped at Cleveland, their stops at intermediate ports precluded anything like rapid movement, and with a heavy through traffic there was no particular desire on the part of such lines to care for the local traffic. Thus the desire of many people to take advantage of the restfulness found only by water travel was frustrated. Fast lines of steamers skirting the American shores of the Great Lakes have not only become a luxurious mode of travel but a necessity to take some of the vast army of people and large consignments of freight which must be moved.

This fact became so patent to a number of Cleveland's wealthy men that in the year 1892 it was decided to establish a daily line of fast steamers between Cleveland and Buffalo, which should touch at none of the intermediate ports, but to constitute a through line without interruption in order to afford better facilities for the constantly growing passenger and freight traffic between these two great cities on Lake Erie. Accordingly the Cleveland & Buffalo Transit Company was organized and incorporated, and has since become widely known as the C. & B. Line, "connecting Cleveland and Buffalo while you sleep." M. A. Bradley, one of the largest individual vessel owners on the Great Lakes, was chosen president, and T. F. Newman, who for many years past had been in charge of the Cleveland interests of the Detroit & Cleveland Navigation Company, was selected as general manager. These gentlemen, with the Hon. George W. Gardner, ex-mayor of

Cleveland; Harvey D. Goulder, proctor in admiralty, J. K. Boles, D. Shurmer and R. C. Moody, constituted the executive department, of the company. Only one change has taken place in the executive department caused by the death of J. K. Boles, who was succeeded by George W. Avery. H. R. Rogers, for years connected with the Detroit & Cleveland Navigation Company, was placed at the head of the traffic department, as general freight and passenger agent, with W. F. Herman as assistant, under the title of traveling passenger and freight agent. Mr. Rogers remained with the company until the spring of 1896, when he resigned to accept a responsible position with the B. & O. R. R. He was succeeded by W. F. Herman, with John J. Nieding as assistant general freight agent. H. S. Fisher, formerly purser of the City of Cleveland, of the Detroit and Cleveland Line, was made passenger and freight agent at Cleveland, and John C. Fitzpatrick, a veteran in the vessel business, was appointed passenger and freight agent at Buffalo. In the year 1894, Mr. Fitzpatrick resigned his position and was succeeded by H. S. Fisher, as general agent, with headquarters at Buffalo.

After details of organization had been completed, the company purchased from the Detroit & Cleveland Navigation Company two steamers to ply between Cleveland and Buffalo nightly, reaching their destination the following morning. While these steamers were large and fast, they were still found, after their first year's operation, to be inadequate in some respects, and immediate action was taken toward the building of a steamer fully adapted to the requirements of the route. Accordingly, in the spring of 1895, an order was placed with the Detroit Dry Dock Company for a new side-wheel steamer, which should be the largest and fastest of that type on the Great Lakes with corresponding superiority in finish and speed. In the spring of 1896, its new steamer, City of Buffalo, was placed on the route. She has a capacity, under the rules of the United States steamboat inspection service, of 3,000 people, this number being fully 500 greater than the next largest

passenger steamer on the lakes. With this complement of passengers aboard, the steamer has room still for 800 tons of freight. She is beyond all doubt the fastest steamer of her class ever constructed, and has proved so entirely satisfactory, and has shown such excellent results after two years operation, that in the fall of 1897 the company awarded another contract to the Detroit Dry Dock Company for a sister ship, the City of Erie, which, it is expected, will be placed on the route early in June, 1898. With this steamer on the route, the service between Cleveland and Buffalo is promised, and beyond all question will be, the best night service between any two cities on the continent. The distance from Cleveland to Buffalo, 183 miles, will be made in nine hours.

The company will also make tri-weekly trips between Buffalo and Erie. This company, in conjunction with the Detroit & Cleveland Navigation Company, operate a nightly line of steamers between Cleveland and Toledo, stopping at the intermediate ports of Lorain and Sandusky, also a day line of steamers between Cleveland and Toledo, stopping at historic Put-in-Bay island in both directions. Thus it will be seen that passengers or shippers of freight can avail themselves of the finest of water service between Buffalo, Erie and Cleveland; Cleveland, Lorain, Sandusky and Toledo; Toledo, Put-in-Bay islands and Cleveland, and similar service in the opposite direction during the season of navigation, which is from about April 1 to December 1, each year.

*The Detroit & Cleveland Navigation Company*, of Detroit, was originally established by Capt. Arthur Edwards in 1850, and operated by him until 1852, running two boats, the Southerner and the Baltimore, between Detroit and Cleveland.

In 1852 the late Hon. John Owen and his associates built the new steamer Forest City, and in connection with E. B. Ward & Co., of Detroit, operated the line, which was run by individual owners until 1868, when it was incorporated under the laws of Michigan, and under the title of The Detroit & Cleveland Steam Navigation Company,



with a capital of \$300,000. Mr. Owen was president of the company from 1868 until a few years before his death.

The present officers consist of Hon. James McMillan, president; Hugh McMillan, vice-president; W. C. McMillan, treasurer; and David Carter, secretary and general manager. The company has now a capital of \$1,500,000.

In 1882 the Lake Huron division was inaugurated between Detroit and Mackinac island and St. Ignace, and the steamers City of Alpena and City of Mackinac placed upon the routes. These two steamers were sold in 1892 to the Cleveland & Buffalo Transit Company and replaced by new and larger steamers. The Cleveland & Buffalo Company changed the names of these boats to the State of New York and State of Ohio.

The following is a complete list of the steamers owned and run by this company on its various routes since the line was established. In 1850 the steamers Southern and Baltimore, which ran for two years; in 1852 the Forest City was built for the route and the St. Louis and Sam Ward were added. In 1853 the May Queen was built for the route, and the Cleveland, built the previous year, was put on, these two steamers carrying the business until 1865, when the Ocean was put on and ran that season and part of the next. In 1856 the steamer City of Cleveland was added, it being the intention to operate a morning and evening line with the three boats. This proved unremunerative. During 1856 the owners of the May Queen purchased the steamer Ocean, and these two boats filled the route until 1862, when the Morning Star came out new and displaced the Ocean, the Cleveland that year running on the line for part of the season. From 1864 until 1867 the City of Cleveland and Morning Star did the work, and in the latter year the company built the R. N. Rice, which, with the Morning Star, ran until 1868, when the latter boat was lost by a collision with the bark Cortland on June 20, 26 persons losing their lives. In 1868 the Northwest took the place of the Morning Star.

In May, 1868, the new corporation took charge of the business under the name of

the Detroit & Cleveland Steam Navigation Company, with a capital stock of \$300,000, and to run for thirty years. The R. N. Rice and the Northwest were on the line until 1877. In 1876 the Northwest was rebuilt at an expense of \$80,000, and in 1877 the R. N. Rice was partially burned, the Saginaw taking her place during the season of 1877. The City of Detroit came out new in 1878, being a composite steamer costing \$175,000, and she, with the Northwest, took care of the traffic on the Cleveland route until 1883. The new iron steamer City of Cleveland came out in 1880, a duplicate as to size and cost of the City of Detroit, the former boat running on a route to Houghton, Mich., in connection with the Lake Superior Transit Company, for a period of two years, when she was placed on the Mackinac route, which steamer was supplemented in 1883 by the new iron steamer City of Mackinac, costing \$160,000. The capital stock was increased that year to \$450,000, and in the season of 1884-85 the same boats ran on the same route as in 1883.

In 1886 the new steel steamer City of Cleveland, the third of that name and costing \$300,000, came out. The name of the old City of Cleveland was changed the same year to City of Alpena. The City of Mackinac and the City of Alpena were on the Lake Huron division until the close of 1892, when they were sold, as stated above, and were replaced by the two magnificent steel steamers of the same names, which came out at the opening of the season 1893, and are now running on the Lake Huron division.

From 1885 to 1889 the City of Detroit and the City of Cleveland were on the line between Cleveland and Detroit, and in 1889 the new steel boat City of Detroit No. 2 was placed on the Lake Erie division, taking the place of the first City of Detroit. The cost of the new steamer was \$350,000. During the season 1889 the City of Detroit No. 1 was put on the route between Chicago and St. Joseph, Mich., as an excursion steamer, but the route was abandoned at the end of the season. Her name was changed, in 1893, to the City of the Straits.

and the "No. 2" was dropped from the new City of Detroit. The City of the Straits was, at the opening of season 1890, put on the excursion route between Cleveland and Put-in-Bay, where she continued until the close of the season 1895. Early in 1896 the company, in connection with the Cleveland and Buffalo Transit Company, established a daily line between Cleveland and Toledo, consisting of the City of the Straits and the State of New York, the latter boat having been superseded on the Buffalo route by the new steamer City of Buffalo.

The losses sustained by the company, during the 42 years of its existence, were those referred to above, since when, through a mishap to her steering gear, the new City of Detroit sunk the steambarge Kasota in July, 1890, and the same steamer ran on Dougal rock at the Lime Kiln Crossing in the latter part of March, 1891, which is a remarkable record of freedom from accidents.

The Detroit and Cleveland Company's steamers are among the finest passenger vessels on our Western waters, and the boats are surpassed by but few in the world. In their design and construction they embrace everything that experience and money can provide for safety, comfort and speed, and the thousands who annually travel on them are living evidence of the wide-spread popularity of this great line.

#### THE ASSOCIATION OF LAKE LINES.

This association is organized under the general plan governing the various traffic associations of the railroads, of which there are now several controlling the freight and passenger traffic in different sections of the United States. Its purposes, in common with such other associations, are the economical and orderly conduct of all traffic for which its members compete, the establishment and maintenance of uniform reasonable rates, rules and regulations to prevent unjust discrimination in charges and facilities, and the co-operation with connecting carriers and adjacent transportation associations.

Prior to 1895 no formal organization governing the lake lines existed. It was,

however, the custom each year for the several lines to co-operate with respect to all matters of common interest. This co-operation was secured through informal meetings from time to time as occasion required and by delegating to a joint agent, temporarily appointed for the season of navigation, the power to promulgate such regulating action as determined upon by the interested parties.

At the opening of the season of navigation of 1895 the association was formally organized under the title above indicated, and the compact then entered into was one of continuing duration. At that time the membership comprised the following lines: The Western Transit Company, Union Steamboat Line, Erie & Western Transportation Company, Northern Steamship Company, Lehigh Valley Transportation Company, Lackawanna Transportation Company, Union Transit Company, and Minneapolis, St. Paul & Buffalo Steamship Company. These lines are what are known as the *regular* lake lines, being thus designated by reason of their corporate ownership and affiliation with connecting railroads with which their business is interchanged, and in contra-distinction from the numerous independently-owned steamers having no alliance with the railroads and operating between any or all ports as business may seem most attractive. This distinction has also attached to the regular lines by reason of the general character of their business; under close traffic relations with Eastern and Western railroads they form a connecting link between the Eastern and Western lake ports, and thereby become a part of through routes for the carrying of merchandise, flour, grain, coal and other general traffic between the seaboard and western points.

The association as at present organized is under the direction of a commissioner. A board comprising the managers of the various lines meet at frequent intervals, and pass upon all questions properly within the scope of the association. Subordinate to this board are various committees, comprised of agents of the lines and located at the different lake ports, such as Buffalo,

Cleveland, Chicago, Milwaukee and Duluth. Through these committees the affairs of the association are directed with respect to the business at the particular points such committees are located.

The traffic under the jurisdiction of the association is all merchandise traffic passing eastward and westward between the lake ports carried by the associated lines. The west-bound traffic is merchandise of the heavier class received at the eastern lake termini from connecting rail carriers, and the Erie canal, destined to Lake Superior, Lake Michigan or Lake Erie ports, or points beyond, as well as traffic originating at the eastern lake ports and destined to the western points. The westward bound traffic from New York via the Erie canal is carried by organized lines, such lines being owned by or operating directly in connection with the lake lines members of the association of Lake lines, and such canal traffic is accordingly within the jurisdiction of the association.

Covering the westward-bound traffic received at the lake ports both from eastern rail connections and the canal, the regular lake lines form part of the through routes to western points, and are recognized by the eastern connecting carriers and the public as regular connections, and covering the through routes so formed tariffs are published by the eastern rail lines as well as the canal lines, and bills of lading issued which have the same commercial standing as bills of lading issued by routes comprised of rail lines.

The eastward-bound traffic, to which the jurisdiction of the association extends, is all package freight tendered to the regular lake lines for shipment at Lake Michigan or Lake Superior ports and destined to Lake Erie ports, or through such latter ports for delivery to the connecting eastern rail carrier. This traffic is mainly flour and grain products, a certain class of packing house products, pig lead, copper, glucose and lard. Covering this traffic, through tariffs are issued by the lake lines from western lake ports to the seaboard in connection with the eastern rail lines, and through tariffs are also issued by the roads

west of the lake ports in connection with the lake lines covering shipments of the traffic described that may originate at points beyond the western lake ports. On all such traffic bills of lading are issued by the regular lake lines, and carry the same commercial responsibility as bills of lading of the railroads.

It will be noticed from the foregoing that a very large proportion of the traffic carried on the Great Lakes is not under the supervision of this association. Bulk grain, iron ore, lumber and coal are extensively carried by vessels, independently owned and operated between the lake ports only, and not as part of through routes between eastern and western points. The traffic of such vessels is secured at rates from time to time prevailing, and are usually determined with regard to the supply of traffic and the demand for vessel space.

During the season of 1896, 80 steamers were in the employ of the associated lines, having a tonnage carrying capacity of 175,595 tons. As the close of the season approached, this number was increased to meet the demands of increased traffic.

Beginning with the season of 1897 the Cleveland & Buffalo Transit Company and the Detroit & Cleveland Steam Navigation Company became members of the association, thus practically extending the jurisdiction of the association to all carriers engaged in the package freight service.

#### LAKE CARRIERS ASSOCIATION.

The primary movement of looking toward the association of vessel owners had its inception in Cleveland, and on September 1, 1880, the nucleus was formed of the Cleveland Vessel Owners Association, which became strong as the years passed, and new tonnage was added. There was talk in other ports of a general association, local meetings being held from time to time, and on December 18 the Cleveland vessel owners decided to meet with those of other cities on February 16, 1881, in Chicago. Articles of association in the form of resolutions were adopted, the most pertinent article setting forth that: "The object of this association shall be for the purpose of



devising and discussing plans for the protection of the interests of lake tonnage (steam or sail), and for the better operation of local associations with each other."

At a meeting held March 12, 1887, the Cleveland Vessel Owners Association organized with Capt. Alva Bradley as president, H. M. Hanna as vice-president, and B. L. Pennington as secretary. The Cleveland association subscribed to the articles and resolutions adopted at Chicago in February, and held strongly to the principles thus set forth (but the general association languished, and lost all energy), and from that time until 1892 the Cleveland association maintained its organization, and labored faithfully for the objects expressed in the article quoted above.

Captain Bradley continued to fill the office of president until his death. He was succeeded by H. M. Hanna, who was maintained in that office until the amalgamation of the society into the present Lake Carriers Association in 1892. B. L. Pennington was also continued as secretary until private business interests caused him to resign. He was succeeded by Capt. George P. McKay, who continued in office until the union of the two associations in 1892.

The Cleveland Vessel Owners Association, at first acting with other local bodies, and later by its own force, with a tonnage membership of over 300,000 net tons, registered, established shipping offices in Cleveland, Ashtabula and other contiguous ports, sent delegations to Washington, on important matters, such as reciprocity in wrecking privileges, the load line tradition, the establishment of aids to navigation, including lighthouses, lightships, improvement of channels, establishment of life-saving stations, removal of obstructions, and other matters of like nature.

The association outlined a system for prompt and accurate reports of new obstructions, which were from time to time found as the draught of vessels increased. It took successful measures in opposing the bridging of the Detroit river, on more than one occasion; it established and maintained, by private subscription, a system of range lights, which have become essential to the

safe navigation of the Detroit and St. Clair rivers. In connection with its shipping offices the association established a rate of wages for seamen, and, after some conflict, asserted the right of seamen to seek employment where they would.

In 1885, on account of the weakness of the vessel owners to establish a general vessel owners association under the plan adopted at the Chicago convention in 1881, the Lake Carriers Association was organized at Buffalo, its purpose being, as was explained in its constitution, "To consider and take action upon all general questions relating to the navigation and carrying business of the great lakes and the waters tributary thereto, with the intent to improve the character of the service rendered to the public, to protect the common interests of the lake carriers, and to promote their general welfare."

It was the further purpose, as set forth in the constitution, of this organization to deal only with general questions affecting the lake carrying marine, and membership was invited from all lake ports. This organization secured a membership of about 300,000 tons. It also dealt with the question of private lights, that is, lights needed in navigation and supported by private subscription, until the government could be induced to supply and maintain such lights; the establishment of better channels, the removal of obstructions, and opposition to the bridging of the Detroit river, holding that the latter would be a general calamity to lake interests; it interested itself in all legislation affecting the Great Lakes; aided in securing the improvement of Hay lake channel, and in all similar work, but did not establish shipping offices. S. D. Caldwell was the first president of the Lake Carriers Association, and Francis Almy secretary, the latter, however, being superseded by Charles H. Keep, all of Buffalo. No praise would be too great for these officers, and the association itself, in the attention given and the success attained in their efforts to carry out the policy of the association.

It was soon discovered that the two associations were operating largely in the

same fields. In December, 1889, a bill was introduced in Congress known as the "load line bill." It applied only to lake vessels, and its peculiar provisions threatened to interfere with the carrying capacity of many classes of lake craft. By the united efforts of the Lake Carriers Association and the Cleveland Vessel Owners Association, through delegations which visited the committees of both Houses of Congress the bill was reported adversely and never came up again. Previously the two associations had united in a successful protest against the bridging of the Detroit river, and in other matters of a like nature, and so closely allied were they that in the report of the president of the Lake Carriers Association, in the spring of 1891, reference was made to a specially important feature of the work of the past year in the establishment of close relations between the association and other organized vessel interests. The two societies acting with the same general purpose, occasionally found themselves at cross purposes. Therefore, the impetus given to lake commerce, and the great increase in the number of large and costly vessels, demanded the union of the two associations, to the end that in all matters of common interest the vessel owners of the lakes should be able to act promptly, as a unit. Conferences were held at Buffalo and Cleveland, at Chicago and Detroit, which culminated in a meeting on April 28, 1892, at Detroit, which was very largely attended by vessel owners from all sections of the lake regions. At that meeting it was decided, with the consent of both associations, to reorganize the Lake Carriers Association, to amalgamate the Cleveland Vessel Owners Association with it, and invite all vessel owners on the lakes to come into the general organization, which was to have shipping offices wherever required about the lakes. Officers were elected and standing committees chosen, and authorized to carry on the work of the reorganized association.

Slight changes were made in the objects of the new association, which were to include in its operations all matters upon which vessel owners were accustomed to act in common. The first year the total

number of vessels entered was: steamers, 360, with a net registered tonnage of 430,800; and schooners, 255; net registered tonnage, 149,039 tons, making a total of 615 vessels and a tonnage of 579,919.

In order that the association should not again degenerate into a mere local organization, it was provided that the president should hold his office but for one year; that the board of managers should include a fair representation of every port on the lakes; that the members of the standing committee should be selected from the various ports in fair proportion to membership. Under this ruling M. A. Bradley was chosen president for the first year; Charles H. Keep, secretary; Capt. George P. McKay, treasurer; and Harvey D. Goulder, counsel.

The new association at once began efforts to secure the establishment of government range lights in the Detroit and St. Clair rivers. The association had assumed the payment for private lights amounting to about \$6,500 a year. By continued efforts the government has been prevailed upon to establish lights wherever required on the American side, leaving the vessel owners to pay only for private lights established in Canadian waters.

The law relative to wrecking had been that American wreckers might not conduct operations upon an American vessel in Canadian waters without a special permit. Considering the limited facilities in Canada for such work, and the great disproportion of American to Canadian tonnage, this frequently resulted in great hardship. There existed similar provisions in our laws against Canadian wreckers. The passage of a law was obtained authorizing Canadian wrecking operations in our waters whenever the Canadians would permit our vessels to conduct similar operations in theirs. This privilege was obtained, and reciprocity of wrecking privileges established.

The interest in the reorganized Lake Carriers Association from the outset was very general. The conduct of its affairs has been exceptionally wise. While it has at times been compelled to deal with questions which were not of interest to each member, yet all of its work has been along

the general lines of the purpose for which it was organized. With the exception of the office of president, no change has been made in the official staff of the association, but in accordance with the provisions of the constitution, the office of president can be held but one year by the same man, and each year a new presiding officer has been chosen.

Formerly, there was no system for reporting newly discovered shoals and obstructions to navigation, or for securing their marking or removal; efforts for securing lighthouses, fog signals, life-saving stations and aids to navigation were local, and it was in consequence of this that it was so difficult to secure necessary attention at Washington, which the commerce of the Great Lakes warranted, and their necessities were comparatively unknown, while other localities united in pressing their wants upon Congress. But now that association has made the vessel owners strong and of one mind, the necessary attention is paid to all their requirements as they are brought before Congress.

As has been said, the first president of the association was M. A. Bradley, who served as presiding officer in 1892. He was followed by Capt. Thomas Wilson in 1893, Capt. James Corrigan in 1894, William Livingston in 1895.

The annual meeting of the Lake Carriers Association in 1896 was held January 15, at Detroit. Capt. J. J. H. Brown, of Buffalo, was elected president to succeed William Livingston, of Detroit. The secretary, treasurer and counsel were re-elected. The annual report showed the chief features of interest for the year just closed to have been as follows:

An abuse in overcharging vessels for fuel at the port of Buffalo, and in compelling all vessels to fuel with the parties who chartered them for coal cargoes. The association had determined to put an end to such extortion and discrimination. An agreement was entered into by the members of the Lake Carriers Association not to take fuel during the season of 1895 from the shippers of hard coal. This agreement was faithfully adhered to, and fuel was obtained

at Buffalo in 1895 at much lower prices than in former years. At the annual meeting in 1896 the officers of the association were able to report that the old abuses had been stamped out and would probably never re-appear.

An important contract was entered into by the Lake Carriers Association whereby all grain shoveling at the port of Buffalo should be done by one contractor instead of by separate gangs at the different elevators. The contractor's price showed a marked reduction from prevailing figures. The officers of the association were able to report that this contract had been in successful operation, with important results, both in the saving of time to vessels and economy in unloading.

Two other very important matters came up at the annual meeting in 1896. The first was a proposition to regulate navigation in the St. Mary's river by Act of Congress, and a committee was appointed to prepare such rules as they thought advisable to secure greater safety in navigating the river, and to ask Congress to pass a law authorizing the Secretary of the Treasury to adopt regulations for the navigation of the river, which regulations should have the force of law. Subsequently the Act of Congress was obtained, the rules prepared by the committee of the Lake Carriers Association were submitted to the Secretary of the Treasury, and approved by him, and in the season of 1896 they went into operation with the force of law.

The other important matter referred to was the project of the Michigan Central railroad to build a bridge with two large piers in the channelway of the Detroit river opposite the city of Detroit. A resolution was adopted at the annual meeting that the Lake Carriers Association should oppose this project with all its power, and a very active contest between the vessel interests and the railroad interests subsequently took place. This contest was continued all through the year 1896, and it was announced that the Bill introduced for the proposed bridge would be withdrawn from further consideration by the present Congress.

The annual meeting in 1897 was held at



Detroit January 12, and the following officers for the ensuing year were elected: President, James W. Millen, of Detroit; vice-presidents, J. S. Dunham, Chicago; C. E. Benham, Cleveland; David Carter, Detroit; S. D. Caldwell, Buffalo; George Berriman, Erie; Howard Shaw, Bay City; F. J. Firth, Philadelphia; L. S. Sullivan, Toledo; W. H. Wolf, Milwaukee; W. C. Farrington, Duluth; M. J. Cummings, Oswego; secretary, Charles H. Keep, Buffalo; treasurer, George P. McKay, Cleveland; counsel, Harvey D. Goulder, Cleveland.

The annual report showed the association to have an active membership on its rolls of 722,863 net registered tons, an increase of more than 100,000 tons over the previous year, by far the largest tonnage ever enrolled in the association. The proceedings of the annual meeting in 1897 were largely taken up with matters relating to the business operations of vessels rather than to matters of legislation. Chief among the matters discussed were the price to be paid for shoveling grain at the port of Buffalo, and a certain proposed improvement in bills of lading, and various economies in loading and unloading charges upon different kinds of freight.

The annual meeting for 1898 was held at Detroit January 19. The report of the secretary showed a tonnage of 687,237 for 1897, a decrease of about 37,000 tons from 1896, caused by the withdrawal of several fleets, which, however, have since reunited with the association. The tonnage for 1898 will be larger than ever before. During 1897 the association was able to reduce the expense for private lights in the Detroit river to a smaller sum than ever before expended. Perhaps the most important feature of the work of the Lake Carriers Association during the year in the legislative field was the success in the efforts of the committee on navigation in securing the lighting of lake channels and waterways on a very considerable scale by gas buoys. The officers and managers of the association having this matter in charge have been working for several years to secure the appropriation for a considerable number of gas buoys on the lakes. After a number of

disappointments, they succeeded last season, with the powerful assistance of Senator McMillan, of Michigan, in securing a substantial appropriation for gas buoys, with a distinct provision in the appropriation bill that the buoys should be sent to the Great Lakes. Forty of these gas buoys were sent by the lighthouse board to the various lake lighthouse districts, and during the season of 1897 twenty-nine of these were in actual service, in addition to the two Canadian gas buoys in Point Pelee passage. There are seventeen other points on the lakes where gas buoys are still needed, and where their establishment has been recommended by the lighthouse officials in charge of the various lake districts. The board of managers hopes that a moderate appropriation can be obtained from Congress at this session which will provide part if not all of these additional gas buoys.

Capt. J. S. Dunham was elected president, with the following as vice-presidents: H. H. Hawgood, Cleveland; David Vance, Milwaukee; C. W. Elphicke, Chicago; A. A. Parker, Detroit; G. L. Douglas, Buffalo; G. A. Tomlinson, Duluth; Chas. A. Eddy, Bay City; F. J. Firth, Philadelphia; Leander Burdick, Toledo; M. J. Cummings, Oswego; Alvin Neal, Port Huron; James McBrier, Erie; J. H. Westbrook, Ogdensburg; F. W. Gilchrist, Alpena; G. E. Tener, Fairport. The secretary, treasurer and counsel were re-elected.

The association award the contract for shoveling grain at Buffalo at \$2.95 per 1,000 bushels. Resolutions were adopted recommending changes in the rules for navigating the St. Mary's river, favoring the enlargement of Erie Canal locks, and urging both the American and Canadian Governments to establish better aids to navigation on the Great Lakes and the St. Lawrence river.

#### LUMBER CARRIERS ASSOCIATION.

At Detroit in February, 1898, there was organized a Lumber Carriers Association for the purpose of fixing minimum rates for carrying. Officers of the new association were elected as follows: President, A. W. Comstock, Detroit; vice-president, Alvin

Neal, Port Huron; secretary, A. M. Carpenter, Port Huron; treasurer, E. J. Reister, Tonawanda, N. Y. The minimum rates for carrying lumber were fixed as follows:

Lake Huron and Georgian Bay to Ohio ports, \$1.25; Lake Michigan ports to Ohio ports, \$1.37½; above Whitefish point to Portage to Ohio ports, \$1.50; above Portage to Ohio ports, \$1.62½. Rates to Buffalo and Tonawanda to be 12½ cents in advance on rates to Ohio ports. Rates on hard-wood lumber were fixed at 75 cents advance over pine minimum. Rates were also adopted as to minor lumber products. No steamer owned by a member is to be permitted to tow a vessel not belonging to the association. Assessments of 5 to 10 cents per net ton annually is authorized to be levied upon members.

Very few owners of lumber vessels are members of the Lake Carriers Association. A circular letter, sent to owners of small vessels by a Michigan owner who has a large number of vessels engaged in the lumber trade, thus explained the needs of the organization: "The lumber carriers for several years past have been running at ruinously low rates on account of the strong competition of the vessel owners themselves. I think this could be easily overcome, providing enough of the owners would get together and form a lumber carrying association and fix a minimum rate of freight, whereby it would show a reasonable return on the investment; and also attempt to remedy some of the many evils which we are subjected to."

Dull times in July, 1898, caused the Lumber Carriers Association, like some of the vessels enrolled on its books, to go into ordinary. The rates of freight on lumber and cedar were suspended for the season. The organization is maintained in hopes of making it effective at a later day. With two or three boats after every possible load, it was impossible to maintain the agreed rates. Bills of lading have been made for the association rates, but the vesselman is said to have granted a substantial rebate to the shipper. "The fleet is decreasing rapidly each year," said a vessel-

man, "but the business seems to fall off even faster than the boats. There is but little left except loading cedar off the beach, and even that trade goes to the railroad."

#### CANADIAN TRANSPORTATION LINES, ETC.

Among the principal Canadian transportation companies may be mentioned the Canadian Navigation Company, of Toronto; Canadian Pacific Steamship Line, of Owen Sound; Northwest Transportation Company, of Sarnia; North Shore Transportation Company, of Collingwood; Great Northern Transportation Company, of Collingwood; Montreal Transportation Company, of Kingston; Merchants Line and G. E. Jacques & Co., Montreal and Hamilton; Mathews Line, of Toronto; and the Kingston & Montreal Forwarding Company, of Kingston.

One of the companies running lines of boats from Lake Ontario and Lake Superior in 1870 was the Lake Superior Royal Mail Line. The boats of this company ran from Collingwood to Fort William, and were the Algoma and the Chicora. These boats ran every week from port to port, calling at Owen Sound, Sault Ste. Marie, Michipicoten and intermediate points, carrying both passengers and freight. The Algoma was formerly the City of Toronto, afterward the Racine and at last the Algoma. She was wrecked in a fearful storm which swept Lake Superior in November, 1885, and a portion of her passengers was lost; but those who obeyed the orders of Captain Moore were saved. This accident occurred near Port Royale, and was caused by the vessel striking on a rock, just when the captain was turning round to take to the open lake.

*The Canadian Navigation Company* was organized in 1857, succeeding the Royal Mail Line, which ceased to exist about 1857. In 1875 the Canadian Navigation Company and the Richelieu Navigation Company, of Montreal, combined their interests and formed the Richelieu and Ontario Navigation Company. At the time of the union of the two companies the Richelieu had the following steamers: The Passport, Magnet, Kingston, Champion, Grecian, Spartan, Corsican, and Bohemian. The Kingston was wrecked, but subsequently repaired and

called the Algerian. The Champion, a wooden vessel, became unseaworthy in 1880, and was broken up. The Grecian was wrecked in 1870 on Split rock, above the Cascade rapids in the St. Lawrence river, and became a total loss. The Passport and Magnet have been in use since 1847. The boats of this line run between Toronto and other points on upper Lake Ontario, and ports on the St. Lawrence. The Spartan was built in 1864, and the Corsican in 1870. They all connect with the Hamilton Steamboat Company's vessels, and with those on the Niagara line.

*The Merchant's Line* was established in 1872 by George E. Jacques & Co., of Montreal, a firm which had then been in existence for, perhaps, 25 years under different names, but which has always had a George E. Jacques connected with it, the present individual of this name being a grandson of the founder of the firm. In 1872 a daily line began running between Montreal and Chicago under this name, and also another line was confined to points on the St. Lawrence river and Lake Ontario. Originally the line running to Chicago was composed of some twenty-five steamers, among them the Osprey, the Colonist, the Indian, the Huron, the Bristol, the America, the China, the Scotia, the Prussia, the Europe, the Asia, the Cuba, the Alma Munro, and the Magnet. The Osprey and the Huron were the largest of these vessels. At first the business of the line was confined chiefly to the carrying of freight; only a few passengers being taken; but later the line developed into a passenger-carrying line mainly.

At the present time this line comprises the steamers Cuba, Melbourne, Persia, Ocean, Arabian (an iron boat), the Lake Michigan, the Sir L. Tilley, the latter being the largest in the line, and being 180 feet long, 32 feet wide and ten feet deep. She is of 804 tons register. The principal owners of this line are Capt. J. B. Fairgrieve and R. O. and A. B. Mackay, of Hamilton, W. A. Geddes, of Toronto, and George E. Jacques & Co., of Montreal.

*The Niagara Navigation Company* was organized in 1878, and established a line be-

tween Toronto, Niagara and Lewiston. Their first vessel was the Chicora, a large steel side-wheel steamer, 230 feet long and 52 feet wide. This boat ran alone on this line until 1888, when the Ongiara, formerly the Queen City, was put on the Niagara river, plying from Niagara-on-the-lake to Lewiston.

The Cibola came next, 260 feet long by 28 feet 6 inches wide, and 11 feet 6 inches deep. She was built of Dalzell steel, said then to be the best known to ship builders, the plates having been sent over from Scotland by the Dalzell Company. The hull was divided into five water-tight compartments. Her construction was commenced May 24, 1887, and she was launched November 21, same year. The engines were from the establishment of Rankin, Blackman & Co., of Greenock, Scotland, and were of the direct action, diagonal compound type, having two cylinders, 47 x 85 inches, and a stroke of 5 feet 6 inches. This vessel was burned at Lewiston, July 15, 1895, the third engineer losing his life.

The Chippewa made her first trip July 26, 1893. She is 311 feet long, and 67 feet wide by 13 feet 6 inches deep. She was built by William Hendrie, of the Hamilton Bridge Company. This vessel was named after a famous man-of-war of 1812.

*The Canadian Pacific Railway Company* run one excellent steamship from Windsor, Ontario, opposite Detroit, to Fort William, at the northwest extremity of Lake Superior, leaving Windsor every Saturday at 3 P. M., throughout the summer season, commencing June 26, and continuing to August 28. The steamer on this line is the Alberta, a steel steamship built on the Clyde. She starts on her return trip on Tuesday, and reaches Windsor about noon on Thursday. The Alberta is a fine vessel, having all the modern improvements. She is 270 feet long, 38 feet wide, 23 feet deep, and has a registered tonnage of 2,300.

Besides this steamship the Canadian Pacific Railroad Company run two steamers from Owen Sound on Georgian Bay, to the head of Lake Superior, these boats being the sister steel steamships Athabasca and Man-



itoba. From Fort William a night's ride carries one to Rat Portage on the Lake of the Woods, from which place steamers run regularly to Fort Frances, at the head of navigation on Rainy river, through picturesque stretches of water which rival in beauty the Thousand Islands of the St. Lawrence.

The Canadian Marine Association was organized February 18, 1885, for the purpose of protecting the mutual interests of Canadian vessel owners. At first the membership was composed of the principal steam-

boat lines and vessel men, the membership being about forty. The first officers were John H. G. Hagarty, president; Capt. J. B. Fairgrieve, vice-president, and W. A. Geddes, secretary-treasurer. The present officers are R. O. Mackay, of Hamilton, Ont., president; W. A. Geddes, of Toronto, Ont., vice-president, and Capt. J. V. Trowell, of Toronto, Ont., secretary-treasurer. The membership at the present time is about fifty. The original vessel-men members gradually permitted themselves to drop out of the association.

## CHAPTER XXV.

### THE SAILOR.

FRENCH VOYAGEURS—FUR TRADERS—MOORE'S CANADIAN BOAT SONG—AN EARLY AMERICAN SAILOR—AN INDEPENDENT CANADIAN SKIPPER—AN INTREPID LAKE ERIE CAPTAIN—EARLY STEAMBOAT MASTERS—SCANDINAVIANS—THE EARLY NAVIGATORS ON LAKE SUPERIOR—JOHN MAYNARD, THE HERO OF THE OCEAN QUEEN—OPPOSITION TO NON-NAVIGATORS HAVING A COMMAND—HOW THE AMERICAN SAILOR "GOES"—A ROMANTIC MARINE ELOPEMENT—THE TYPICAL JACK HAS VANISHED—CREW OF A LINE FREIGHTER—PHILOSOPHY OF A TUG-BOAT HAND—"DE LOOK AN' SEE"—PILOT DUTIES—OPPORTUNITIES FOR ADVANCEMENT—HO! FOR THE STRAITS—SEAMEN'S WAGES—THE WESTERN SEAMEN'S FRIEND SOCIETY—THE FLOATING BETHEL—MARINE HOSPITALS—SHIP MASTERS ASSOCIATION—MASTERS AND PILOTS OF STEAM VESSELS—MARINE ENGINEERS BENEFICIAL ASSOCIATION.

Anyone can hold the helm when the sea is calm.  
—*Marim.*

The good seaman is known in bad weather.

A smooth sea never made a skillful mariner.—  
*Dutch Proverb.*

While the hollow oak our palace is, our heritage the sea —*Allan Cunningham.*

The best pilots have need of mariners, besides sails, anchor and other tackle.—*Ben Jonson.*

The winds and waves are always on the side of the ablest navigators.—*Gibbon.*

I was never on the dull, tame shore,  
But I loved the great sea more and more.  
—*Proctor.*

I love the sailor; his eventful life—  
His generous spirit—his contempt of danger,  
His firmness in the gale, the wreck, and strife.  
—*Colton.*

How cheery are the mariners—  
Those lovers of the sea;  
Their hearts are like its yeasty waves,  
As bounding and as free.  
—*Park Benjamin.*

I'm on the sea! I'm on the sea!  
I am where I would ever be,  
With the blue above and the blue below,  
And silence wheresoe'er I go.  
—*Proctor.*

A strong nor'-wester's blowin' Bill!

Hark! don't ye hear it roar now?

Lord help 'em, how I pities them

Unhappy folks on shore now.

—*The Sailor's Consolation.*

FROM the days of the French voyageurs down to the present time the sailors of the Great Lakes have always been an interesting and picturesque type of men, varying with the changing conditions under which they sailed, but ever wearing the badge of courage and fidelity, and ever displaying the sturdy character that is demanded of their eventful vocations. The sailor of to-day is unlike the sailor of 50 years ago, because navigation has been revolutionized during that period. Much more is he unlike the first white man, who tempted these unknown seas, and who only skirted cautiously the extended shores of the Great Lakes.

The first white sailors on the lakes were engaged almost exclusively in the fur trade. They were canoemen, and sailed from one end of the lakes to the other.

"A wild looking set were these rangers of the woods and waters," says Hubbard in his "Memorials of a Half Century." "Their weirdness was often enhanced by the dash of Indian blood. Picturesque, too, they were in their red flannel or leather shirts, and cloth caps of some gay color, finished to a point, which hung over on one side with a depending tassel. They had a genuine love for this occupation, and muscles that seemed never to tire at the paddle and oar. From dawn to sunset, with only a short interval, and sometimes no midday rest, they would ply these implements, causing the canoe or barge to fly through the water like a thing of life; but often contending against head-winds and gaining but little progress in a day's rowing. But how sweet was the rest, when a favoring breeze sprung up, enabling the little craft to carry sail. Then in came the oars, down lopped each, and in a few minutes all were in the enjoyment of a sound snooze. The morning and evening meal consisted, almost universally, and from choice, of bouillon, a soup made from beans, peas or hulled corn, with a piece of pork boiled in it, and hard bread, or sea biscuit. To the Northern

voyageurs rations were generally served out of one quart of hulled corn and half a pint of bear's grease or oil, this being the daily and only food."

*Plain Fare of the Fur Traders.*—Henry, the English trader, thus describes the food of the Canadian voyageurs: "The village of L'Abre Croche supplies the maize, or Indian corn, with which the canoes are victualled. This species of grain is prepared for use by boiling it in a strong lye, after which the husk may be easily removed; and it is next mashed and dried. In this state it is soft and friable, like rice. The allowance, for each man on the voyage, is a quart a day; and a bushel, with two pounds of prepared fat, is reckoned to be a month's subsistence. No other allowance is made, of any kind; not even of salt; and bread is never thought of. The men, nevertheless, are healthy and capable of performing their heavy labor. This mode of victualling is essential to the trade, which being pursued at great distances, and in vessels so small as canoes, will not admit of the use of other food. If the men were to be supplied with bread and pork, the canoes could not carry a sufficiency for six months; and the ordinary duration of the voyage is not less than fourteen. The difficulty which belong to an attempt to reconcile any other men than Canadians to this fare, seems to secure to them, and their employers, the monopoly of the fur trade.

"After supper, pipes were lighted and, seated on logs or squatted around the camp-fires, they chatted until bed-time. This came early and required little preparation. To wrap a blanket around the person, placing coat or shoe-packs beneath the head, and a little greasy pillow—the only bed that was carried—constituted the whole ceremony; and speedy and sound was the sleep, beneath the watchful stars. The labor of the oar was relieved by songs, to which each stroke kept time, with added vigor. The poet Moore has well caught the spirit of the voyageurs' melodious chant in his "Boat-song upon the St. Lawrence." But to appreciate its wild sweetness one should listen to the melody, as it wings its way over the waters softened by distance, yet

every measured cadence falling distinct upon the air. These songs, usually half ballad or ditty, and love, of course, the main theme, express the natural feelings of a people, little governed by the restraints of civilization."

Moore's Canadian boat song is supposed to be sung by those voyageurs, who go to the Grand Portage by the Ottawa river. It is as follows:

A CANADIAN BOAT SONG.

Faintly as tolls the evening chime,  
Our voices keep tune and our oars keep time.  
Soon as the woods on the shore look dim,  
We'll at St. Ann's our parting hymn.  
Row, brothers, row, the stream runs fast,  
The Rapids are near, and the daylight's past!

Why should we yet our sail unfurl?  
There is not a breath the blue wave to curl!  
But when the wind blows off the shore,  
Oh! sweetly we'll rest our weary oar.  
Blow, breezes, blow, the stream runs fast,  
The Rapids are near, and the daylight's past.

Utas' tide! this trembling moon  
Shall see us float over thy surges soon.  
Saint of this green Isle! hear our prayers,  
Oh! grant us cool heavens and favouring airs.  
Blow, breezes, blow, the stream runs fast,  
The Rapids are near, and the daylight's past.

"I wrote these words" says Thomas Moore, "to an air, which our boatmen sung to us very frequently. The wind was so unfavorable that they were obliged to row all the way, and we were five days in descending the river from Kingston to Montreal, exposed to an intense sun during the day, and at night forced to take shelter from the dews in any miserable hut upon the banks that would receive us. But the magnificent scenery of the St. Lawrence repays all these difficulties.

"Our voyageurs had good voices, and sung perfectly in tune together. The original words of the air, to which I adapted these stanzas, appeared to be a long incoherent story, of which I could understand but little.

"I ventured to harmonize the air, and have published it. Without that charm which association gives to every little memorial of scenes or feelings that are past, the melody may perhaps be thought com-

mon and trifling; but I remember when we have entered, at sunset, upon one of these beautiful lakes, into which the St. Lawrence so grandly and unexpectedly opens. I have heard this simple air with a pleasure which the finest compositions of the first masters have never given me; and now there is not a note of it which does not recall to my memory the dip of our oars in the St. Lawrence, the flight of our boat down the Rapids, and all those new and fanciful impressions to which my heart was alive during the whole of this very interesting voyage."

Describing the passage of a canoe through the breakers at the mouth of Twin river, Lake Superior, a writer in 1826 says: "Nothing can exceed the skill of these voyageurs in places of difficulty. The steersman, his eye on the motion of the waters, and the relation the canoe bears, at each moment of time, to the surge, gives the word, and the paddles are applied with redoubled energy, and before a breaker reaches the canoe, she is past it, or, by retarding her movements, it rolls over and sinks before it reaches her."

"One of the more prominent traits of the voyageur's character," writes Charles Lauman from Lake Superior in 1847, "is his cheerfulness. Gay and mirthful by nature and habit—patient and enduring at labor—seeking neither ease nor wealth—and, though fond of his family, it is his custom to let the morrow take care of itself, while he will endeavor to improve the present hour as he thinks proper. He belongs to a race, which is entirely distinct from all others on the globe. It is a singular fact, that when most troubled, or when enduring the severest hardships, they will joke, laugh, and sing their uncouth songs—the majority of which are extemporaneous, appropriate to the occasion, and generally of a rude and licentious character."

But with the conquest of the Great Lakes by England, and the subsequent independence of the American colonies, and the colonization of the region of the Great Lakes, the voyageurs faded away, and a new type of seamen appeared on the scene. They were sturdy, restless Americans, who



migrated from the Atlantic seashore. A brief sketch of one of these pioneers is here presented:

*An Early American Sailor.*—Uncle Davy Johnson, of Cleveland, when 94 years old related to a correspondent of the *New York Tribune* about 1884 some of his early experiences on the Great Lakes, which he had sailed for 50 years. He said: "When I was a chunk of a youngster I was apprenticed to a cooper at Bridgeport, Conn., and for five years I hammered away with adze and driver, and hauled a draw knife for just what I put in me and on me. We used to think that western New York State or western Pennsylvania was away out west. In 1809 I put a 32-pound bundle on my back and started on foot to Buffalo. I made the journey to Albany, N. Y., about 320 miles in 16 days. That journey was nothing remarkable, as I had three dollars in money and a bundle of food. Many a poor fellow started on the same journey with nothing but an axe. When I arrived at Buffalo, I found a very small town. Cleveland, Sandusky and Erie were ports of entry. There were only two lighthouses on the lakes, one at Buffalo, first one built, and the other at Erie. Buffalo was then called Fort Erie and was a struggling little town till the war of 1812 gave it a start.

"My first trip as a sailor was made from Buffalo to Erie, which was then considered quite a trip. From Buffalo to Detroit was looked upon as a long voyage, and a vessel of 32 tons burden was considered the largest sailing on the lakes. In 1813 I was one of a crew of four, Capt. Dick O'Neil in command, that left Buffalo in the sloop *Commencement*, with a cargo of whiskey for Erie. While beating along the shore the English frigate *Charlotte* bore down upon us and captured us. Two boat-loads of red coats boarded our vessel and took us prisoners. We were immediately paroled, and a small vessel placed at our disposal to reach shore. We disliked to leave the sloop and whiskey at their mercy, and asked to be allowed to remain in the vicinity of the vessel, and were told by the British commander that if it was any consolation to us we could do so. We thereupon concocted

a scheme to get the guard drunk and run the vessel ashore. This scheme was found out, and we were packed in a boat and rowed ashore, with orders not to return. After Perry's victory the owners of the *Commencement* were indemnified. I saw Commodore Perry often at Erie. In 1813 I settled in Cleveland. It was then a little, poverty-stricken huddle of not more than a dozen or fifteen houses. The first vessel I sailed as captain was the *Perseverance*, in 1816. The first trip I made in her was from Maumee to Mackinaw with a cargo of beer for Vance and Meeker. Vance was afterward governor of Ohio. From that time on I sailed the lakes for 50 years."

*An Independent Canadian Skipper.*—In the autumn of 1826, in one of the occasional gales of Lake Erie, a Canadian steamer, named the *Dauntless*, of Walpole, ran into Buffalo harbor for safety. The marshal of the district was notified to arrest the captain for some misdemeanor. He went on board the vessel to take the captain into custody. The skipper said he had some orders to give to his men before he left. He went up the rigging to the masthead; he then gave orders to his men, and the close-reefed jib and the double-reefed foresail were hoisted in sailor style, the lines were cast off right in the teeth of that fiercely blowing gale of 40 miles an hour. The vessel gracefully careened on her side and headed for the lake. The marshal, not being a sailor, gladly gave twenty-five dollars to be landed on the breakwater of the harbor, and the wily skipper held his course for the British possessions.

*An Intrepid Lake Erie Captain.*—In a recent number of the *Marine Record*, C. G. Calkins, now of Berkeley, Cal., related some early reminiscences on Lake Erie. The sterling qualities of the old-time lake captains are shown in the following incident: "October, 1833, I was a passenger on the schooner *Minerva*, Captain Stiles, from Buffalo. There had been a hard blow, and the wind was still heavy down the lake. We were not making much progress, and the captain decided to anchor inside Long Point. The anchor was hardly down when a boat came off shore to the vessel, and in

it were the famous Captain Walker, the equally famous "Walker's Mary," and a man and wife, passengers on Walker's fine steamboat Washington, which had gone ashore and to pieces outside of the Point. Only one passenger was lost; the rest, about 40, had started to walk toward Buffalo.

"Captain Walker insisted on being taken to Erie, and forthwith. So we were again on the open lake, with night and a violent storm to encounter. Captain Walker kept the deck all night, and showed himself a good sailor in heavy weather. I was in ignorance some of the time as to whether we were already half way to the bottom, and did not care if it was so. If Captain Walker had not exercised his seamanship and muscular qualities, we should, no doubt, have gone down. All the canvas the wind could snatch was torn to shreds, but Walker was lively and saved most of it. If he had not been aboard we were lost, with no chance in our favor, but if he had not been on board we should not have been here, but safely swinging to anchor behind the Point. In the morning we made Dunkirk, and Walker and the others, including the hatless passengers, proceeded to Erie by stage."

*Early Steamboat Masters.* — The successful navigation of the lakes by the early steamboats promoted western travel and immigration and led to the construction of the small fleet of steam vessels placed in commission from 1825 to 1830. With this fleet was inaugurated that magnificent boom, "steamboating on the Great Lakes," which continued until that majestic autocrat of the rail, the locomotive, relegated to inactivity the passenger steamboat on Lake Erie during the decade of the fifties. This illustrious boom was at its zenith during the decade of the forties, developing a large and magnificent fleet of passenger steamers, luxurious in appointments, officered by skilled lake navigators, distinguished for their affability, picturesque in ruffled shirts, and otherwise exquisite attire.

There was no dearth of patronage, including fair women and brave men; there were bands of music galore, and a holiday

air from the opening to the close of navigation.

"The captains of the early and 'magnificent' steamers," says one writer, "were quite a distinct class of citizens. They were recruited mostly from the ranks of the successful masters of sailing vessels. The lake captain, as he walked his deck, was a man not readily approached. \* \* \* In the village graveyards that line the shores of these inland seas, lie many of the men to whom were entrusted the comfort and safety of the great number of persons, who, in those early days, sought in the then far west a home for themselves and their children. As one who knew something of the lives of these men, and of the hardships and perils to which they were exposed, and of the responsibilities that rested upon them as captains, engineers and officers of the early steamboats on the lakes, the writer desires to testify to their many good qualities, and to say that as a class they were rarely excelled in the conscientious performance of their duties. Often unlearned as to the courtesies of life, or in the refinements of social usages, they had in them the stuff of which heroes are made, and when occasion required, as it often did, they displayed an unselfish heroism, which, more widely known, would have brought to them the recognition and fame they well deserved but rarely received."

Among the early settlers of Wisconsin were large numbers of Scandinavians, descendants of the old northern sea kings. They had inherited a taste for the water, and proved as hardy and adventurous in their new homes as their ancestors did on the North sea, for thousands of these Danes, Swedes and Norwegians sailed the lakes for many years. Some of them bought land in the wilds of Wisconsin, and followed the lakes until the savings from their wages had paid for their homes. Others continued to sail through choice, and made efficient crews for the fleets of sail a generation or two ago.

"The early navigators of Lake Superior," says Charles H. Keep, in his "Internal Commerce of the United States," "are entitled to credit for the great skill man-

ifested in successfully navigating its unknown waters, unaided by any reliable charts, lighthouses, or other governmental aids to navigation. It may be truthfully said they builded better than they knew, for they in connection with the early explorers and the successful investors and seekers for mineral wealth on the shores of Lake Superior, first gave birth to the thought that that lake might be made a part of one of the great highways of commerce between the Atlantic and Pacific oceans. They traversed unknown and unexplored waters with a success that was worthy of the enterprise, energy, watchfulness, care, and skill manifested in their vocation, for, as we now recall, there was but one fatal catastrophe occurring among them, from the opening of navigation on Lake Superior in 1844 to the opening of the canal in 1855. This was the loss of the schooner *Merchant*, commanded by Captain Brown, sailing from Sault Ste. Marie for Copper Harbor and other ports in the season of 1847. Neither she nor any of her crew or passengers were ever heard from."

The changes of masters of sail vessels in the early forties were of rare occurrence, and many grave derelictions which would not be tolerated now were seemingly overlooked. But, though independent, the old-time sailor was usually fearless and faithful.

The loss of the *Ocean Queen*, says an old newspaper, evoked the following poem from the pen of Kate Weaver. The disaster is not located, but the verse no doubt typifies the bravery and devotion to duty of the sailor of the Great Lakes.

JOHN MAYNARD.

'Twas on Lake Erie's broad expanse,  
One bright midsummer day,  
The gallant steamer *Ocean Queen*  
Swept proudly on her way.  
Bright faces clustered on the deck,  
Or, leaning o'er the side,  
Watched carelessly the feathery foam,  
That flecked the rippling tide.

Ah! who beneath that cloudless sky,  
That smiling bends serene,  
Could dream that danger, awful, vast,  
Impended o'er the scene—

Could dream that ere an hour had sped,  
That frame of sturdy oak  
Would sink beneath the lake's blue waves,  
Blackened with fire and smoke?

A seaman sought the captain's side,  
A moment whispered low,  
The captain's swarthy face grew pale,  
He hurried down below.  
Alas! too late! Though quick and sharp  
And clear his orders came,  
No human efforts could avail  
To quench the insidious flame.

The bad news quickly reached the deck,  
It sped from lip to lip,  
And ghastly faces everywhere  
Looked from the doomed ship.  
"Is there no hope—no chance of life?"  
A hundred lips implore;  
"But one," the captain made reply,  
"To run the ship ashore."

A sailor, whose heroic soul  
That hour should yet reveal—  
By name John Maynard, Eastern born—  
Stood calmly at the wheel.  
"Head her south-east!" the captain shouts,  
Above the smothered roar,  
"Head her south-east without delay!  
Make for the nearest shore!"

No terror pales the helmsman's cheek,  
Or clouds his dauntless eye,  
As in a sailor's measured tone  
His voice responds "Aye, Aye!"  
Three hundred souls—the steamer's freight—  
Crowd forward, wild with fear,  
While at the stern the dreadful flames,  
Above the deck appear.

John Maynard watched the nearing flames,  
But still, with steady hand,  
He grasped the wheel, and steadfastly  
He steered the ship to land.  
"John Maynard," with an anxious voice,  
The captain cries once more,  
"Stand by the wheel five minutes yet,  
And we will reach the shore!"

Through flames and smoke that dauntless heart  
Responded firmly, still  
Unawed, though face to face with death,  
"With good God's help I will."

The flames approach with giant strides,  
They scorch his hands and brow,  
One arm disabled seeks his side,  
Ah, he is conquered now!



But no, his teeth are firmly set,  
 He crushes down the pain,  
 His knee upon the stanchion pressed,  
 He guides the ship again.

One moment yet! one moment yet!  
 Brave heart, thy task is o'er!  
 The pebbles grate beneath the keel,  
 The steamer touches shore.  
 Three hundred grateful voices rise  
 In praise to God, that He  
 Hath saved them from the fearful fire,  
 And the engulfing sea.

But where is he, that helmsman bold?  
 The captain saw him reel—  
 His nerveless hands released their task,  
 He sank beside the wheel.  
 The wave received his lifeless corpse,  
 Blackened with smoke and fire.  
 God rest him! Hero never had  
 A nobler funeral pyre!

*Opposition to Non-Navigators Having a Command.*—In the earlier navigation of the Great Lakes, that is prior to about 1852, when they passed under national jurisdiction, there was a class of lake navigators, who were self-reliant and jealous of innovation or intrusion on their professional domain by landsmen assuming a command, by virtue of ownership. The first case in point was that of the steamboat *Constitution*, about the year 1843. This vessel was owned by Mahlon Kingman, and for two seasons past had been commanded by Capt. Gilman Appleby, who for a serious offense, was relieved of his command. Then Amasa Kingman, son of the owner, who had sailed as clerk of the boat, but who was not a navigator, was placed in command, with Capt. Bob Wagstaff as first officer and sailing master. Owing to the popularity of the owner and his son among lake men, and also that of Bob Wagstaff, this innovation was overlooked, but it was not approved of, and the general sentiment was, "Don't let it happen again."

Another instance of the kind was that in connection with the steamboat *Wisconsin*, which came out prior to 1840, under command of Capt. Henry Randall, with William Pincheon, second officer. She was a tub-built boat, having a wide beam, much disproportionate to her length.

About 1843 she changed ownership, and was re-built, being materially lengthened in the process. A man named William Chard was her controlling owner. Mr. Chard had been a captain on the Erie canal, had prospered and had become manager of a canal transportation line, but had no experience on the lakes. However he assumed command of the re-built boat with the orthography of her name changed to "*Wisconsin*." Then the trouble began. The idea of a canal-boat captain in command of a prominent lake steamboat was an innovation not to be condoned, and the shipmasters in general put burrs on the coat tails of Captain Chard. One of the most indignant of these shipmasters was Capt. Fred Wheeler, then sailing the propellor *Hercules*. Captain Fred procured a lengthy tin horn, and a set of whiffletrees, and when meeting the "*Wisconsin*" outside in command of Captain Chard, he would send the whiffletrees to the foretop of the *Hercules* and sound the tin horn, the loud-mouthed emblem of canal navigation, from the foremost head. One season's command sufficed for Captain Chard. The tin horn and the whiffletrees were too much for him.

*How the American Sailor "Goes."*—Silas Farmer, in his history of Detroit, gives this instance of recklessness during the palmy days: "Some times high prices for transportation tempted the owners of boats to start them on their trips earlier than prudence justified. On one occasion, in the spring of 1851, as the ice had gone out of the Detroit river, and the upper end of Lake Erie was reported clear, the owner of a steamboat gave notice that she would sail the next day. As the lower part of the lake was covered with floating ice, there was much discussion with regard to the safety of the proceeding; and the boat started out from a dock which was thronged with spectators, who expressed much anxiety concerning her safety. The next day towards evening, the well-known Joseph Campau met A. B. Wood, the manager of the Telegraph Company, near the Campau residence, and said, 'Does ye hear anything from de boat—de boat went out yesterday morn'?' 'Oh yes, she has just reached

Erie. She got into the ice and floundered about, tearing her paddle wheels to pieces, but she is in Erie harbor all safe.' 'Well,' said Mr. Campau, 'I to't so. Now, when de Englishmon he want to go anywhere, he set down and tink how he get dar, and de Frenchmon, he want to go, and he stop and tink how he get dar; but de American, de Yankee, he want to go, and be-gar, he go. He go heaven, he go hell, he go anyhow.' "

*A Romantic Marine Elopement.*—Sailing on the Great Lakes was not without its romance during the palmy days of 1840. An affair of the heart occurred in March, 1838, which at that time occasioned wide comment and lead to a famous trial at Pittsburgh, Pa. It immediately concerned Capt. Richard C. Bristol, who was afterwards a vessel owner, but at the time was sailing the James Madison, one of the first steamers of the regular line between Buffalo and Chicago. The captain was, early in 1838, the accepted suitor of Miss Josephine Hamot, the lovely daughter of a wealthy Frenchman, a resident of Erie, Pa. On the eve of his wedding, Captain Bristol was rudely forbidden communication with his intended by the stern and unrelenting parent, and a little later he learned, much to his distress, that the young lady was to be married to a Mr. Walker, an old roommate of his. Stories prejudicial to the character of Captain Bristol had been related to the old gentlemen. The repulsed suitor, smarting under the wrongs that had been done his good name, in vain sought a reconciliation with the family of his once affianced bride. The young lady's affections clung to her first love, and, when the latter planned on the evening of the last ball of the season a romantic elopement, she gave acquiescence. A coach, a word and a rapid drive, and the pair and a few friends were aboard the James Madison at an early hour in the morning.

The moorings were slipped and the steamer glided through the tortuous channels of the bay, and out into the lake, but heavy ice fields barred the way toward the New York ports, where marriage licenses were not required.

It was resolved to head the steamer up

the lake, and so she steamed her way through great masses of floating ice, and at daybreak lay off Ashtabula, short of fuel and with the small crew exhausted from their excessive labor. After a hurried consultation it was resolved to land at Ashtabula, take on a fresh supply of fuel, and if there were legal obstacles to a speedy marriage to steer for Detroit.

Captain Bristol went up to the town to see how the land lay, and in his absence a large steamer was observed in the offing, black with people and evidently bent on mischief. It was the Jefferson, sister ship of the Madison, both owned by Col. Seth Reed, of Erie. Captain Bristol had dispatched a boy to Jefferson, the county seat, for a marriage license. When he saw the pursuing steamer he resolved to take Miss Hamot ashore, and to direct his crew to put off up the lake, and thus deceive the "Jefferson party." This would give him time to procure his license and be married. The bride went ashore, but before the Madison got away the Jefferson was under her stern, and Captain Dobbins of the revenue cutter ordered the ship to return to Erie under penalty of seizure, as she had no ship's papers aboard. The Madison complied, uncertain of the denouement. When the Jefferson arrived at Erie, a few hours later, she had the young lady aboard. The pursuers had spoiled the romantic elopement. They had observed the landing of Miss Hamot, and followed her to the hotel, where by dint of much persuasion they induced her to return with them to Erie.

Excitement ran high at that little city, and the people arrayed themselves on opposite sides. Some of the officers of the Madison were arrested. Captain Bristol was charged with criminal abduction, and committed to prison at Pittsburgh for trial. His trial proved a farce, and the courtroom during its progress was the scene of great interest and merriment. Captain Bristol was triumphantly acquitted, the United States court holding that it had no jurisdiction. The captain soon after married, and under the patronage of his good friend, Gen. Charles M. Reed, of Erie, became later a wealthy and successful grain

dealer of Chicago, where he has been identified with various marine interests.

*The Typical Jack Has Vanished.*—What was written a few years ago by William L. Alden in reference to the ocean sailor may apply in a measure to the lake sailor also. He says: "The sailor is not yet totally extinct, and it may be safely prophesied that he never will be. To say, as is often said, that there are no longer any sailors, is to assert a broad general principle, which, like other general principles, is partly true and partly false. There exists what we might call a domesticated breed of sailors, such as the quartermasters, who steer our steamships, and the occasional veterans who are found among the crews of our men-of-war. The typical Jack of the pre-propeller age—the 'Jacketarian' and the able seamen of the clipper-ship fleet—has, however, utterly vanished. He was essentially a wild man. Civilization, in its most condensed expression, the steam engine, has driven him from the ocean."

*In the Cabin of a Liner.*—Describing in "Harper's Magazine" a trip on the steamer Columbia, in 1872, Constance Fenimore Woolson thus referred to the evening festivities: "The tables had been rolled away, and the colored waiters, with their guitars and banjos, formed a vocal and instrumental band.

'Old Huron's long, old Huron's wide,  
De engine keep de time;  
Leabe de ladies on de side,  
And balance in a line,'

sang these lake minstrels in their melodious voices. The floor was crowded with dancers, all formality was laid aside, strangers danced with strangers, and even that relic of the past, the slow waltz, had its devotees. A Virginia reel brought us close upon Sunday morning, and we all retired."

*Crew of a Line Freighter.*—A writer in the "Midland Magazine" recently described the crew of a lake-line freighter, and the following is his description somewhat abridged: "The crews consist of a captain or master, a mate, second mate, two wheelmen, two lookouts, two watchmen, an engineer and assistant engineer, three oilers, three fire-

men, cook, second cook, porter, and five deck hands or 'jacks of all trades,' in all 25 men.

"The captain of a line-freighter renders full value for the salary he receives. I have met but one who claimed to be entirely satisfied, and I suspect that he mistook me for a new officer of the company. Captains generally will stoutly maintain that a sailor's life is a dog's life, and that they would never allow a son of theirs to go on the water. Still, some of them wax fat and jolly.

"The captain of an ocean steamer has the same amount of detail port work and ship routine to perform as has the lake navigator; but his ports are fewer and his runs are so much longer that in fair weather he has an easy time of it. Not so the lake mariner. He is making one port and sometimes two ports a day. He has long stretches of rivers with narrow channels, and perhaps a hundred vessels to meet and pass, during which time he is on the bridge in fair weather and foul. He takes his vessel into and out of every port. He has to see to and prepare his manifests, his clearings and other custom-house rigamarole; look after his freight bills and attend to the constant loading and unloading at every port. He must see that this is done scientifically, so as to keep an even keel,

"A salt-water captain, who is majestically piloted into his dock at New York, there to remain until it is time for him to be borne out in the same manner for his return trip, has little idea of the tribulations of his lake brother, who must poke around in perhaps a dozen different docks, pass 20 drawbridges and dispute the right of way with as many if not twice that number of vessels. His harbor cares are so numerous and weighty that I have known of devoted husbands, whose ships have been at their home port for days at a time twice a month, but who could not get home more than once in an entire season—I said that they are devoted husbands, too!

"Another delicate task is threading the narrow channels in the St. Clair and St. Mary's rivers. These are much-buoyed and lighted, yet a hundred or two hundred feet



nd even three hundred of 'roadway' for a vessel measuring forty feet wide, having wind and current to contend with, and meeting others of similar width, is not what might be termed comfortable driving.

"In dense fogs and stormy weather this guiding genius of the deep' frequently puts on twenty-four to thirty hours steady watch. The latter end of the season, October and November, when for weeks continuously the mad winds blow and the billows roar,' is the time when one can best judge of the responsibilities, cares and physical strain on a lake mariner.

"Imagine yourself standing in a little coop, perhaps eight feet square, with no shelter other than a canvas fence chin-high, with a bleak, howling wind, and the snow, sleet and spray encasing you in a rigid frozen mold; there to be tossed up, down and sideways. You are unable to see a distance of over a hundred feet. You must keep head to the wind. You know your whereabouts by the blindest reckoning only. You have your vessel, many thousand dollars' worth of cargo, and perhaps passengers to think of. You realize that another vessel may crash into you at almost any moment or that something about your steering apparatus or running gear may give out at the wrong time, and I'll wager that you would go down upon your knees and implore Heaven to bear you safely back to your cosy library.

"Many of the minor cares about a steamer are shouldered by the first and second mates. The first mate is usually an elderly man. He attends to the hiring of deck-hands—a task which recurs at nearly every port and always at the end of a round trip; to the cleaning, painting and burnishing of the ship; keeping things in place and having an eye on the stores and supplies, besides being on six hours watches twice out of every twenty-four. He is the mouth-piece of the captain; transmits all his orders 'aft' and looks after things generally.

"The second mate is usually young and ambitious (perhaps only lately promoted from the wheelhouse, and with his gaze steadily fixed upon the beacon light of a captaincy), he does everything the captain

and mate impose upon him. He watches the other double six hours of the twenty-four; does the fine work about the boat; attends to everything aft when entering and leaving port; never sleeps and always looks pleasant—except to the deck hands.

"The wheelmen are to the lakes what the quartermasters are on salt water. Theirs is a tedious though not physically hard task, particularly on ships having steam steering gear which requires really but an infant's touch to turn the wheel. The wheelman is learning to be a pilot, receives orders to steer a certain course and must follow that to a dot—a most wearying job to stand there for six long hours looking for land marks and alternately watching that needle point that *will* wobble, and better had he never been born if, through drowsiness or other weakness of nature, he steers a quarter point off, or if in a channel he be too slow to obey instantly the order from above to 'Port-a-little,' —'E-a-s-y,' 'Nothing to starboard' or 'S-t-e-a-d-y.' He keeps the 'log,' noting every point passed, time, and direction of wind and steering course and rings the bells for the other watch to go on duty.

"The lookout's post is forward at night and in fogs where he peers ahead and informs the officers on watch that there is a white light ahead, or a red light on the port bow, or gives other seemingly useless information. At other times he scrubs, paints, washes, makes rope fenders and haughtily shows the lowly deck hands how to polish brass. The watchmen do mostly the same thing except that instead of looking out for lights ahead they tend lights and prowl around looking for possible fires within.

"The engineer, with his assistant, his oilers and his firemen form a department by themselves; they control the heart of the monster. The chief, though obedient in taking orders from the captain about manœuvering the ship, obeys instructions from headquarters only as to speed, consumption of coal and such matters, and is a good deal like a civil service government employé, under the captain but in a sense independent of him.

"The ship's crew generally stick to her for a season anyway. The deck hands pass the 25 or more tons of coal a day from the bunkers to the fire room, shift freight, wash and polish everlastingly at the brass work, scrape spars and decks, remove from the latter the blisters of some 20 odd coats of paint, and apply a fresh coat. Though some stick and climb even to the bridge, most of them go on when particularly desirous of reaching some other port. There is an occasional fire drill when everyone makes a wild rush for his allotted position, some by the boats, some with the hose and others with axes. There is great commotion, and everyone seems satisfied that it was well done.

"Jack has some fun aft of the engine-house after supper. You hear some good jokes and considerable horse-laugh and play; and I suspect that there is often a quiet game in the kitchen galley where dimes and quarters change owners."

#### PHILOSOPHY OF A TUGBOAT HAND.

Down to the poorest paid stevedore, the sailor of the lakes is usually a happy individual, contented with his life and its pleasant associations. The poet of the *Chicago Record* has caught and expressed this spirit, in the "Philosophy of the Tugboat Hand," which is here reprinted:

"Yes, sir, home is where the heart is; which is words that I have read

In a book wrote by a party that I understand is dead;  
'Home, Sweet Home's' a tune I whistle often of these summer nights,

When the smell rolls up the river follerin' the steamer lights.

"In the heart of ev'ry human is a feelin', kinder soft.  
Fer the bidin' place he's uset to, even if it's just a loft,  
An' a-settin' on the towpost when we're docked here,  
all alone,

I feel sorry fer the man that has no place to call his own.

"With my pipe lit an' a-puffin', with the bridge lamps shinin' red,  
An' the black smoke hangin' heavy in the air just overhead,  
An' the garbage in the river bobbin' up an' down, you see

There's a heap o' satisfaction to a homebody like me.

"Other men may have their millions an' their houses,  
big an' grand,

But I ain't got any envy fer them people of the land;  
Twenty years I've bunked down forrard in the old  
Rebecca Nye—

She has been my home an' will be, if I'm lucky, till  
I die.

"Home—yes, home is where the heart is, an' the old  
Rebecca's mine;

I blowed up with her in '80, sunk with her in '89.

Ev'ry plank an' rope an' rivet, ev'ry bolt head is a  
friend

True an' firm an' tried an' trusted, on the which I can  
depend.

"Twenty years I've slept down forrard in the same  
familiar bunk

With exception of occasions when it happened I was  
drunk.

With exception of occasions of a sorry kind when I  
Let the wicked city tempt me from the old Rebecca  
Nye.

"This is home—the greasy water an' the sulphur an'  
the smoke,

An' the smell that comes a-floatin' up the river till you  
choke,

An the tootin' o' the whistle, an' the crashin', splashing  
sound

As the whizzin' old propeller swings some passin' boat  
around.

"This is home—the steward callin' like a voice out of  
the tomb,

Tellin' us to come to supper down there aft the engine  
room.

This is home—with us a-groanin' up the river, pullin'  
slow,

An' as we go chasin' outside nosin' 'round to find a tow.

"Let them kings who live in castles be as proudish as  
they please;

Let them wade around in carpets that reach up to  
their knees,

That an' such like things may be their idy of a home,  
but I

Druther have my bunk down forrard in the old Re-  
becca Nye."

The humorous phases of lake sailing are preserved in a number of dialect poems, which have appeared in the press from time to time. One of these, entitled "De Look an' See," was recently reprinted in the *Marine Record*. It is as follows:

A skow kom sailing down Lak St. Claire  
 Shingal an cord hood her deck load ware;  
 De win blew fresh an de win blew free,  
 An speed her way dat "Look an See;"  
 Out she sail from de creek of de Bear,  
 Over de waters of Lak San Claire.

De win increase till he blew a gale,  
 De "Look and See" she reef her sail;  
 De water joomp rite o'er de boat  
 An way tree stick of cord hood flote;  
 From gail to hurricain blow de wind,  
 Four bonch of shingal flote behind.

De captain she can't stan dat no more,  
 All de profit gone from dat trip sure;  
 If all shingal an de cord hood go; de sheriff he seeze  
 An sell dat skow, den no more whiskey,  
 No more bread, no more cabin to cover de head.

So de mate she yell in de gail,  
 Batise stan by and let go dat sail;  
 Haul in de peek halyard when I luff de boat,  
 De peek haul in de halyard gon,  
 An under de gib day scoot along.

Dey reach de river, dey pass de lite,  
 Dare stopping place soon com in site;  
 De captain jomp rite roun and roun;  
 Parblue Batise, why doan you haul down?  
 Can't do it captain, de mate reply,  
 If you tink you can, you bess com try.

Trow in de hank so quick you can,  
 De Captain cry as he forward ran;  
 Trow in de hank, and we make tings snug,  
 Better do dat dan hire a tug.  
 But Captain, de hank ain't got no string on,  
 Never mind, trow her in, may stop her som.

*Pilot Duties.*—J. R. Oldham, in a recent article in "Cassier's Magazine," touches upon the different pilot duties of the lake masters. He says: "As to navigation on the lake region rivers, imagine a narrow waterway, say, with not more than 600 feet of channel, 15 feet deep, and picture two or three steamers, with or without barges in tow, going down the steam at ten or twelve miles an hour, when suddenly, at a bend in the river where a sharp turn of about 90 degrees has to be made, another steamer, or perhaps two, close together, with a string of tow barges, are encountered at the acute turn of the channel. I say, imagine being placed in that situation both day and night, and the steamer that you

have charge of being 50 per cent. larger than the average steamer passing the Suez canal. This is just the ordinary work of American lake captains, or it has been for many years. But now the speed in the "Soo" river is happily limited to nine miles an hour in narrow or shallow reaches, and its navigation is not quite so difficult or hazardous. A sailor who has never seen the "Soo" navigated would probably say that the turns the descending vessels frequently have to make in the face of such obstacles as I have endeavored to show, are more suitable for one of the picturesque Indians, who navigates the St. Mary's rapids with his facile canoe, than for a steel steamer, 435 feet in length and of 8,500 displacement, yet the task is generally accomplished with safety and precision."

To the charge, sometimes made, that lake masters are only pilots, the additional reply can now be made that many captains are thoroughly fitting themselves for all the duties of thorough seamanship. And for this progress the representative of the Navy Department on the Great Lakes by means of the hydrographic bureau is properly credited. A navigation school has been conducted at Chicago during the past two winters by Lieut. C. L. Wilson, the assistant hydrographer at the Chicago office, and many of the captains of this port have taken great interest in the opportunities thus afforded, and acquired the technical nautical instruction, which is making them superior in seamanship to ocean navigators, for in addition to the training and ability of the latter they possess the knowledge and experience of piloting vessels through the most intricate and extensive system of channels to be found in the world.

It has been the assertion of the manager, who has in charge the newest and the largest fleet of ore freighters on the lakes, that he would attract to the service the best men on the lakes. This special effort to secure the most competent mariners, no doubt, has its basis in the fact that the best seamanship is the cheapest. The investments in this fleet are so large, the quick dispatch and careful sailing so essential to the full and complete success of the enterprise, that,



simply as a business proposition, the question of efficient seamanship has received a new consideration. The result must be to directly or indirectly benefit all lake mariners. It is one of the plans of this management to induce the crews to remain aboard these vessels year after year, and to seek advancement by meritorious services. The quarters provided for the men have been made equal to those on a line freighter. The tendency will be to still farther improve the character and ability of the lake mariners.

*Opportunity for Advancement.*—There is abundant opportunity for the lake sailor to rise in the world, not only to the better positions in marine service, but in other honored vocations of life. Both the past and the present afford numerous examples of men, eminently successful, who have been schooled by a course of lake navigation. Ex-Congressman Jerry Simpson, of Kansas, was an ordinary lake sailor. In February, 1895, the *Marine Review* briefly noticed the career of many eminent marine men, who had in early life filled lowly positions on the lakes or elsewhere. Capt. James Davidson, of West Bay City, began life as a ferry boy at Buffalo. H. A. Hawgood, of Cleveland, was a marine engineer. James Corrigan, of Cleveland, sailed before the mast with Capt. William S. Mack and many others. Ex-Congressman W. J. White, the Cleveland millionaire, sold pop corn to grocers, and is credited with having done some sailing. W. C. Richardson and J. C. Gilchrist both saw the rough side of life aboard small vessels. Harvey Goulder sailed before the mast, and gained a practical knowledge of navigation which has proved of great value to him as an admiralty lawyer. Capt. George Bone, of Buffalo, was keeper of the Erie beacon light-house before the war. Capt. John W. Moore, of Cleveland, at a tender age shipped as cook on a scow for \$5 a month. Capt. Frank Perew also sailed the lakes as a cook, shipping on a bluff, on a passing schooner that was without a cook. L. C. Hanna, of the firm of M. A. Hanna & Co., was a steamboat clerk, and John Pankhurst, Robert Wallace, Tom Coe, Thomas Fitzpatrick and other shipbuilders and vessel

owners were lake engineers. The list might be extended indefinitely. The biographies of prominent lake mariners teem with instances of self-made men.

*Ho for the Straits!*—The opening of navigation is a great event for the thousands of sailors who have been wintering at the various lake ports. A Chicago newspaper writer described, a few days before the fleet got away in the spring of 1897, the scenes of activity on the Chicago river, and throughout the marine circles in anticipation of the eventful opening. He said: "There is a little stretch of ice around the Straits of Mackinaw, a little more in Lake St. Clair, and some large floes in Lake Erie. This is now all that keeps the 600 vessels, which comprise the lake fleet, still snug in their winter quarters. The coming week crews will begin to gather. The machinery of the big steamers, taken apart last fall and scattered around the engine rooms so that water would not freeze in the pipes, will come together again. Sails will be pulled down from a hundred lofts. From numberless sailors' lodging-houses will come forth the men who will sail the ships.

"Every pleasant day the vanguard is already at work painting the sides or patching up the decks. Many craft, deep-laden with grain, are being moved down the river to be nearer the harbor entrance when the news comes the 'straits are open.'

"The solitary sentinel of the numberless vessels and cargoes which will be afloat the coming season now scans the expanse of ice at the straits from the Lake Marine News station at Mackinaw City. To many thousands his reports on the 'condition of the ice' are more important than the latest news from the Mediterranean.

"A few steamers have been hept running all winter between Chicago and points along the Wisconsin shore. A big business has been done by car ferries across the lake from Milwaukee; but all this does not count with the mariners who are now getting ready for work. The only navigation they recognize is that which begins with the opening of the straits.

"Down along the river it is safe to call

almost any man these days, who looks well fed, has a hale and hearty appearance, and who wears a big coat, 'Captain.' 'How are you, Captain? What kind of a winter have you had? What have you been doing?' This is the salutation one hears a dozen times in a block.

"California seems to have been attractive to many lake faring men the last winter. A score or more have been to Cripple Creek and succeeded in putting away the savings of last season into holes in the ground. Gold mines absorb more of the earnings of lake navigators than any other class of men who depend on wages for support. Some the last winter have been up in British Columbia, and have invested there. Now they are coming back. Shipkeepers are being paid off and let go until another winter comes around. Tales of fabulous wealth made in gold mines are relegated to the time for rest after a hard day's work in getting the ship into shape once more for service.

"It will be a great day for the keepers of the sailors' lodging-houses when navigation opens. The money of the average sailor disappeared long ago. He has had the same thing happen every winter since he can remember, and the fact that his money is gone, which is so troublesome to many people, does not worry him in the least. The keeper of the lodging-house is not troubled by this little circumstance either, for he knows as soon as the 'boys' get to work this spring the winter bills will be paid. Year by year the number of real sailors grows less on the lakes. The musical 'heave-ho' is becoming the lost chord. Even on vessels which use sail an engine lifts the canvas.

"A long night of enforced idleness for a great army of stevedores and longshoremen is also showing the dawn of morning. There are said to be over 2,000 men who earn their living during the summer by loading and unloading merchandise from the liners. In the winter a great many of them are employed in cutting and stowing away ice. Such occupation, however, is beneath the notice of the men who unload coal and lumber, and they do not expect to do anything

after the last vessel is unloaded until the next one comes the following spring.

"In the old times the first boat through the straits was a marked craft for the season, and its captain took front rank among his fellow navigators. It was nothing to go up to the straits and buck ice for a week in trying to get through in achieving that honor. But with the coming of corporations and consolidations of capital in large fleets, much of the early honor has gone. The managing owner directs his movements. The captain, once the proud commander free to sail when he deemed best, now awaits a telegram ordering him to go. The manager wots not of honor, but in coal bills he is an adept. Thus another romance has given way before the logic of double-entry bookkeeping."

*Seamen's Wages* vary considerably from year to year, for they are subject to the same influences that regulate other wages.

Seamen's wages in 1818 were \$15 per month; mates' wages from \$25 to \$30 per month; and captains' wages from \$40 to \$50 per month.

The wages of men in 1836 ranged as follows: The captain received from \$600 to \$1,000 for the entire season; the first mate from \$36 to \$40 per month; second mate, from \$18 to \$28 per month; steward, from \$25 to \$35 per month; engineer, from \$50 to \$90 per month; wheelsman, from \$15 to \$20 per month; fireman, \$18 per month; sailors, \$16 per month; first cook \$25 per month; second cook \$18 per month; third cook \$10 per month; and other hands from \$10 to \$15 per month.

The following table shows the rates of seaman's wages at different periods during the season of 1859. Vessels in the lake shore trade usually paying the highest wages given: April 1 to August 15, \$12 to \$14 per month; August 15 to October 1, \$16 per month; October 1 to November 1, \$18 to \$20 per month; November 1, to the close of the season wages were from \$1.00 to \$1.50 per day. Seamen's wages during the fall of 1863 were \$2.00 per day.

For the census of 1890 statistics were prepared showing the number of all employees constituting the ordinary crews of

1,072 reporting steamers on the Great Lakes and St. Lawrence river, together with their average monthly wages. The statement is as follows:

EMPLOYES	Number Employed	Average Monthly Wages
Captains .....	1,069	\$109 15
First mates.....	577	71 56
Second mates.....	339	58 00
Clerks.....	117	66 25
First engineers.....	1,067	87 34
Second engineers.....	597	62 24
Wheelmen .....	1,040	36 01
Lookouts .....	565	33 77
Watchmen.....	503	32 97
Cooks.....	720	51 54
Assistant cooks .....	306	20 98
Seamen .....	52	35 96
Deck hands .....	2,278	23 70
Firemen.....	1,463	36 51
Stewards.....	75	59 43
Waiters .....	215	20 44
Boys.....	30	18 30
Chambermaids .....	49	22 39
Porters.....	89	25 22
Musicians.....	8	65 00

Another statement shows the number of all employees constituting the ordinary crews of 758 reporting sailing vessels on the Great Lakes and St. Lawrence river, together with their average monthly wages:

EMPLOYES	Number Employed	Average Monthly Wages
Captains .....	757	\$77 18
First mates.....	632	52 14
Second mates.....	132	50 31
Cooks.....	660	35 68
Seamen.....	2,354	38 39
Boys.....	4	18 25
Watchmen .....	2	25 00

In recent years the Lake Carriers Association has from time to time established a schedule of wages, which has been generally accepted. The custom has been to advance wages from \$3 to \$10 per month about October 15, and to also make a further advance in November if conditions justify it.

The following are the wages adopted by the executive committee of the association for 1898:

ON STEAM VESSELS	WAGES PER MONTH		
	FIRST CLASS	SECOND CLASS	THIRD CLASS
Chief engineer .....	\$105	\$90	\$60 to 75
Second engineer.....	70	65	50
First mates .....	75	65	50 to 60
Second mates .....	50	40	.....
Cooks .....	50	45	40
Helpers to cooks .....	15	12	.....
Firemen .....	30	30	25 to 30
Wheelmen .....	30	30	25 to 30
Lookouts .....	30	30	25 to 30
Deck hands.....	15	15	15
Oilers .....	30	.....	.....
ON CONSORTS AND SAILING VESSELS.			
First mates .....	45	\$30 to 40	.....
Second mates .....	35	.....	.....
Cooks .....	30	25	.....
Seamen.....	30	20 to 25	.....

NOTE.—Firemen engaged in fitting out vessels are to be paid \$1.25 per day.

In the division of classes, the first class on steamers is supposed to represent all steel freighters, excepting the older ones that have only compound engines; these latter are included in the second class with the larger wooden steamers. The third class is designed to cover small wooden steamers, such as are engaged in lumber trade. The point of tonnage where a line is to be drawn between first and second class in barges and sailing vessels is left to the owner.

*The Western Seamen's Friend Society.*  
—The Bethel Union, of which the Western Seamen's Friend Society is a component part, was organized in 1867, to carry on the wider benevolent work, into which the activities of the latter had developed. The Bethel Union is now the owner of valuable property at the corner of Spring and Superior streets, Cleveland, occupied by the Associated Charities and the Western Seamen's Friend Society. The Western Seamen's Friend Society has had an unbroken existence since 1830, when the society was organized. A complete chapel and institutional work is now conducted by the chaplain, Rev. J. O. Fall. Cleveland is the chief office of the society in the West. The Seamen's Friend Society maintains



a Bethel home. Its efforts are in the line of intellectual, social and religious care, but it is wholly non-sectarian. It employs, as means allow, missionary agencies on the interior highways of commerce; establishes missions and Sunday-school stations at isolated settlements; it has, during its sixty-seven years of existence organized Bethels and port societies at Cleveland, Cincinnati, Pittsburg and Erie, Ashtabula Harbor, Toledo, Sandusky, Milwaukee, Detroit, Chicago, St. Louis, Onarga, Ill., St. Paul, Duluth and Washington Island. Many of these Bethels have had a continuous existence. Several own valuable property, and have work of national reputation.

Local boards of control contain about 145 of the most influential business men of the interior cities, ladies' auxiliaries, nearly two hundred women workers. More than four hundred volunteer men and women workers aid in the educational features of the work.

In the early days of its history the work was limited to sailors and men directly connected with the lake, river and canal navigation. The evolution of methods and of the highways and carriers of commerce, propelling machinery on the water, and vast railway systems on the land, with the potent moral interests, connected with the industrial and social status of this carrying trade, has compelled broader scope, both as to beneficiaries and appliances for work.

Among the many objects of the Western Seamen's Friend Society, it would be well to mention, preaching the Gospel to seamen, boatmen, railway operatives, lumbermen, fishermen, longshoremen, etc.; Bethel chapels and reading rooms; floating Bethel missions; Snug Harbor stations for the care of aged and disabled men of the transportation line service; Bethel congregations, with neighborhood household sections. The society is dependent for support principally from private contributions.

*The Floating Bethel.*—In July, 1879, Chaplain J. D. Jones purchased the schooner Union and founded the Floating Bethel Mission at Cleveland. This long, low-water craft, through the windows of which bright lights gleamed and the sound

of hymn song floated out upon the air, was moored alongside the wharf at the foot of St. Clair street, Cleveland. A house was built the entire length and breadth of the little schooner, and she was transformed into a Bethel chapel and reading room. A few ladies and children were present at the dedication of this floating Bethel, but the greater part of the audience was composed of seafaring men, representatives of many nationalities.

Twelve years previous to the organization of this work Chaplain Jones had devoted much of his time to independent, unpaid mission labor, holding meetings on the docks, in the jails, police stations, and the marine hospital; distributing tracts, food and clothing; officiating at funerals and carrying the word of God into the enemies' camp in many and diverse ways.

In September, 1879, the Floating Bethel and City Mission was organized, with a board of directors. Captain Thomas Wilson was chosen president of the board and has filled that office ever since. The object of the Floating Bethel is to do missionary work among the sailors, to visit the shipping in the harbor and the homes of the poor and sick, and as far as means would allow, provide for their wants; to visit the inmates and do missionary work in hospitals, infirmaries and prisons. In the course of time the little floating Bethel became too small to accommodate the growing mission, and in 1886 the land and two-story brick building at No. 165 River street was purchased. This building answered the purposes of the Floating Bethel for several years, but finally it, too, proved inadequate.

In 1895 the purchase of the four-story building next door was completed, and the new floating bethel building dedicated December 22.

Two meetings are held in the chapel, every Sunday and Thursday evenings. The register shows that 23,233 people were present at divine services during the year 1893, and during 1897 there were 50,593 in attendance. The expenses in 1883 were \$3,336, and the annual expense since 1890 has been about \$6,000.

In the reading-room, which is free to all, English, German and Scandinavian lake port papers are kept on file. Writing material is also furnished free to sailors.

The officers of the Floating Bethel follow: Capt. Thomas Wilson, president; Capt. George Stone, vice-president; Stiles H. Curtiss, vice-president; C. O. Scott, treasurer; H. F. Lyman, secretary; J. D. Jones, chaplain and superintendent.

#### MARINE HOSPITALS.

*United States Marine Hospital at Cleveland.*—Unusual interest attaches to the history of the United States Marine Hospital at Cleveland from the fact that it was the first institution of its kind to be built along the chain of Great Lakes, and also because of the many vicissitudes through which it has passed. The agitation for the construction and maintenance of a marine hospital on the inland waters of the United States began in the year 1835, the Ohio Legislature at that time adding its influence to efforts made elsewhere, and in time Congress appointed a commission to look into the matter. This commission visited Cleveland and chose the site at present occupied by the hospital, a tract of 8.57 acres belonging to Levi Johnson, the price of which was \$12,000. Five years after the report of this board, during which time efforts had been made to have another site selected, Congress appropriated the money needed to purchase the tract. This was done August 29, 1842. Two years later \$20,000 was appropriated for the building, and the foundations were laid, after which several years passed without further action on account of the quicksand underlying the site. On April 30, 1856, Congress appropriated the sum of \$8,000 for completing the hospital, with \$5,000 "for grading and piling the lake front." This was speedily seen to be insufficient for the purpose, and other appropriations followed, the building being sufficiently completed to allow of the admission of patients in 1852. The total cost of the hospital proper was \$87,703.66, while the grounds, fence, enclosing walls, etc., brought the grand total to \$119,291.84.

The first physician and surgeon of the

hospital was Dr. Charles R. Pierce, who was superseded before being allowed to serve by Dr. Morgan L. Hewitt, November 4, 1851. Dr. Hewitt was in command when patients were admitted for the first time, in 1852. During the next nine years the physicians in charge, with the date of their appointments, were as follows: Dr. H. A. Ackley, April 4, 1893; Dr. Jonathan I. Todd, July 1, 1857; Dr. R. S. Strong, October 26, 1859; Dr. William A. Capener, August 24, 1860; Dr. Martin Luther Brooks, March 11, 1861.

While the Civil war was in progress, the Soldiers Aid Society of Cuyahoga county occupied one wing of the hospital building, on authority of the United States Government. Dr. N. B. Prentice was appointed to take charge of the hospital in 1865, being followed four years later by Dr. George H. Blair, who in turn was succeeded by Dr. J. F. Armstrong in 1873.

On October 1, 1875, the Cleveland City Hospital Association, which later became the Lakeside Hospital Corporation, after diligent effort succeeded in obtaining a twenty years' lease of the hospital property from the government, at the nominal rental of \$1 per year, agreeing to care for marine hospital service patients for 64 cents each per day. This arrangement continued until the expiration of the lease, when an extension of six months was granted by the government to enable the Lakeside Hospital Corporation to complete its group of magnificent new hospital buildings which adjoin the Marine hospital. The lessees made a number of permanent improvements during their occupancy of the grounds. A large brick structure east of the main building was constructed with an amphitheater for clinical lectures, and rooms for the laundry and servants' quarters. At the west of the main building a frame cottage for a children's ward was also constructed. A pest house was also built.

Dr. Proctor Thayer was appointed to command of the hospital in 1887, being followed by Dr. Guy B. Case, as acting assistant-surgeon, until 1889, when Passed Assistant-Surgeon S. T. Armstrong took charge. The officers in charge from that

time up to the present have been as follows: Passed Assistant-Surgeon P. M. Carrington, assigned February 15, 1890; Assistant-Surgeon A. W. Condict, April 15, 1890; Passed Assistant-Surgeon S. D. Brooks, May 24, 1890; Assistant-Surgeon Emil Prochazka, April 5, 1894; and Passed Assistant-Surgeon R. M. Woodward, from June 15, 1894, to the present time.

On April 1, 1896, the lessees of the hospital vacated and the marine hospital service resumed control. In addition to Dr. Woodward, the officers in charge are Dr. L. P. H. Bahrenburg and Dr. H. L. Gilchrist, internes, and L. W. Richardson, steward. There are eleven attendants.

During its existence, the hospital has cared for a very large number of patients, all of whom, except during the period of occupancy by the Lakeside Hospital Corporation, have been sailors belonging to the merchant marine of the Great Lakes. All such are considered wards of the government to the extent that they are provided medical attendance and nursing free of charge. To afford an idea of the extent of the work performed in the institution, the figures covering the number of patients treated during the three years ending with 1895 are given. During the fiscal year 1893, 319 hospital patients and 1,688 office patients were treated. In 1894, the numbers respectively were 253 and 1,170, and in 1895, 297 hospital patients and 1,082 out patients received the benefit of medical treatment and advice.

The marine hospital service of the United States dates from the year 1798 and celebrated its centennial in 1898.

*United States Hospital at Detroit.*—A reservation at the corner of Jefferson and Mount Elliott avenues, Detroit, was ceded to the United States by the Legislature of Michigan in 1853 for hospital purposes. The construction of a commodious and suitable building was commenced here by the government and completed in 1857 at a cost of \$109,526. It is a solid and substantial structure, three stories in height and capable of providing for from 50 to 60 patients. Dr. Zenas Pitcher was appointed physician in charge, in 1857, and served

until 1861. Since then the surgeons in charge have been as follows: Drs. Louis Davenport, 1861 to 1866; James A. Brown, 1866 to 1879; W. H. H. Hutton, 1879 to 1882; W. H. Long, 1882 to 1885; H. W. Sawtelle, 1885; W. H. Long, 1885 to 1889; W. G. Stoner, 1889 to 1893; W. H. H. Hutton, 1893 to 1897; John Godfrey, 1897, and now in charge. A fine residence for the medical officer was erected in 1895, and arrangements have been made here for the building of an isolation ward.

*U. S. Hospital at Chicago.*—A meeting of citizens was held at Chicago in 1846 for the purpose of inducing the general government to establish here a marine hospital for the benefit of sick and disabled seamen. A petition was drafted and received many signatures. It was presented to Congress and was successful, for an Act was passed in 1848 appropriating \$10,000 for the erection of a hospital. It was built on the east side of Michigan avenue, near the site of the old Fort Dearborn, and completed in 1851 at a cost of \$50,000. This hospital was destroyed in the fire of 1871, and the ground was then sold to the Michigan Central Railroad Company. Four years earlier, or September 18, 1867, work had been commenced on a new hospital, the present commodious structure on the shores of Lake Michigan, five miles north of the court house, on North Halsted street, near Grace-land avenue. A ten-acre tract had been purchased at \$1,000 per acre, but work progressed slowly until after the fire. The building was completed in November, 1873. It has a capacity of 150 patients. Its staff now consists of Drs. Henry W. Sawtelle, surgeon; M. H. Foster, assistant-surgeon; C. Ramus, acting assistant-surgeon; Percy Barnesby, interne, and two stewards. About 3,000 patients are treated annually. There is a city office of the hospital in the Rand-McNally building.

#### SHIP MASTERS ASSOCIATION.

Two Captains sink the Ship.—*Turkish marim.*

On March 2, 1886, through the efforts of Martin Niland, William Dickson, Parlan McFarland, Edmund Condon, John H. Dissette, and other well-known lake captains,



there was formed at Buffalo, N. Y., the organization known as the Ship Masters Association, having as a nucleus the Excelsior Marine Benevolent Association. The present membership consists of between 700 and 800 of the better class of lake masters. Since its organization the association has paid death claims amounting to over \$70,000.

In addition to the social and beneficial advantages, through discussions at their meetings, the association has been instrumental in securing needed legislation on raft-towing, lights, fog signals and the regulation of speed in narrow channels. The discussions and lectures on compasses, affairs in admiralty, and other subjects, which are features of the regular weekly meetings, held when navigation is closed, has been of great benefit to the members. The key note of the organization is that every member is bound to do something to benefit the fraternity at large, and is recognized as one of the fundamental principles of the organization. All that remains for the organization to do is to point out to the members the application of this truth, and enforce its importance, that they may assist the grand officers in carrying it to a successful issue.

The membership is made up of men who, by uniting energy and close application to their duties, have worked up to a good position in their calling, men who have been compelled to stand a thorough examination by an appointed government expert, whose duty it is to investigate character and habits and the ability to keep cool and clear headed in moments of great danger. They are also examined on the geography of the whole lake system, and are expected to recognize at once, even though glimpses only can be caught through the fogs or snow, the headlands of any portion of the continuous shores, wherever they may be. The direction and exact location of any submerged rock or shoal,—and these are numbered by the thousands in this great water area—must be accurately given in these examinations. To become a master of a lake steamer is no easy matter. It means during a large portion of

a lifetime the closest attention to duty in the different positions, as step by step advancement is made. In few, if any, callings are there so many vicissitudes. This vocation requires almost absolute accuracy. Among lake masters are men who, after a decade of untiring labor, have met with slight accidents, and lost all they have gained by many years of hard labor, but, like the courageous men they must be to follow their vocation, they start out again at the bottom and work up.

The history of the formation of the Ship Masters Association is full of interest. Its first meeting was held in a coal-shed by a few masters, not for secrecy but because it was the most convenient place. From this place the great good that has been brought about has emanated, and it makes a ship-master feel proud of being a member.

One of the causes which led to the formation of the association was the position taken by the line managers at Buffalo, that their masters should attend a nautical school. But the men asserted that they had, by actual experience of half a lifetime on the deck of a steamboat, served their apprenticeship, and had demonstrated their thorough competence to handle their vessels in all weather. Some of the more thoughtful masters, however, saw that a means to the end sought by the owners, would be the formation of an association for mutual improvement and that by meeting together socially a better feeling would be created.

To this end a hall on Seneca street, Buffalo, was rented, about March 2, 1886, an organization formed and officers elected. The association was called the Excelsior Marine Benevolent Association, and its aims and purposes were set forth in the shape of a constitution which bears the handmarks of careful and well-balanced minds. A clause in the constitution recites that "The efforts of this association shall be to improve and elevate the character of its members, create sociability and brotherly feeling; render assistance to those of our calling in sickness or death; to assist in providing a fund in case of death, to be given to the widow or orphan; to discuss matters of

benefit to those in our calling, so as to make us more desirable to the owners of the craft we navigate; in fact to bring us closer together for mutual benefit."

The Ship Masters Association is now on a solid and substantial basis, and has a safe and reliable organic law, whereby its business interests may be conducted by business methods. To quote President Clark, who, perhaps more than any one of the members, is entitled to credit in making the association deserving of confidence, "although the past years have been peaceful and pleasant sailing for the order in its voyage of life, it must not be thought that the ship will always sail upon peaceful waters and under pleasant skies. A sharp lookout must be kept in fine as well as in rough weather. Prosperity leads to carelessness, and carelessness leads to ruin."

The clubrooms of the association are places where the membership can resort and always find the most congenial companionship, and a sufficient variety of amusement to while away their idle hours; a place where they can meet on an equality and have the same proprietary rights. Past Grand President Clark says, in his annual report: "The success of any fraternity is based upon the number of its members, and, this being conceded, how can the members expect to receive the benefits they anticipate, without endeavoring to earn them by securing new members. Many new certificates are issued to masters every year, and an effort should be made to induce those to whom they are issued, to join the Ship Masters Association."

The first grand president, Alexander Clark, was initiated January 5, 1887, under the old local organization, and was instrumental in calling a convention of the local lodges. Lyman Hunt was initiated March 16, 1889, and W. A. Collier on January 31, 1890. The convention met in Buffalo in January, 1891, an organization of a grand lodge on a broad basis was effected, and officers were elected, as follows: Capt. Alexander Clark, grand president; Capt. Lyman Hunt, grand treasurer; Capt. W. A. Collier, grand secretary. These officers were continued until 1894, when Capt. C.

E. Benham was elected grand president. He served one year; Capt. George McCullough was next chosen grand president.

Capt. Martin Niland, Pennant No. 1, was very active in securing the organization, but positively refused to accept office.

Nine months in the year the affairs of the association are conducted by three men, the grand president, the grand treasurer and the grand financial secretary. Grand Secretary Collier and the executive board should receive great credit in making the paid matter in the annual directory, since 1893, meet much of the current expense, that is, the printed matter, the salaries of the officers, the expenses of conventions, and the postage of the secretary, and no assessment has been made for per capita tax. At this writing there is over \$2,000 in the treasury.

The grand secretary collects assessments to pay death claims direct from each individual member, and the secretary of local lodges collects the annual dues from his own lodge.

*Buffalo Lodge No. 1.*—After organizing and adopting a constitution, Buffalo Lodge No. 1, at its next meeting elected the following officers: William Dixon, president; Edward Condon, vice-president; and John Dissette, secretary. The charter members were Messrs. Niland, Green, Condon, Carlisle, Drake, Williams, McFarland, Halligan, Sked, Byrne, Smith, Ivers, Camish, Dunn, Jones, Gillies, Dissette, Dickson, Gardner, Provort, Hogg and O'Neil. In the fall following, a larger hall in Washington street was rented; and after the election of Alexander Clark to the presidency they secured better quarters in the parlors of the Hesper. Seeing the pleasant and comfortable quarters, the captains commenced to enroll themselves as members and the lodge began to fill rapidly. Interesting subjects were discussed at the meetings, and the social phase of the movement began to manifest itself. At this time President Clark was ably assisted by Frank Welcome, vice-president, and J. M. Todd, secretary. In the winter of 1887 President Clark and F. D. Welcome started on a tour of organization and succeeded in forming a number of

lodges. Two years ago the lodge established its quarters at 55 Main street in light and airy rooms, and with chart tables, a good library and other accessories to a club room, including billiard and card tables. The place is attractive to masters seeking information or amusement.

*Port Huron Lodge No. 2.*—Masters residing at Port Huron, Mich., were the first to enroll themselves and extend the hand of fraternity to the Buffalo Lodge. The Port Huron Lodge was organized in February, 1888, and met in temporary quarters until 1891, when the increased membership encouraged a permanent meeting place and, in 1893, a large hall in the Jenkins block was leased and No. 2 fitted up apartments, consisting of lodge room and reading room, newly furnished throughout. The first officers of Port Huron Lodge were: F. H. Dager, president; George Febo, first vice-president; William Curtis, second vice-president; W. Hutchinson, secretary; and Thomas Cuvan, treasurer. This lodge has a large and active membership, including in its ranks as honorary members some of the best business men of Port Huron.

*Chicago Lodge No. 3.*—Chicago was the next port to take up the interest, and a lodge was organized January 25, 1890, by Captains Clark, Welcome and Young. It was a tedious matter to enthuse the masters of Chicago in the movement, but after a time, with the assistance of Capt. James Hogan, 25 applicants were secured, the number necessary to hold a charter. The first meeting was held in the sail loft of H. Channon & Co. Fifteen members were enrolled at this meeting. After organizing, they adjourned to a small hall on the West Side, and Capt. James Hogan was elected president; William Chamberlain, first vice-president; James M. Comstock, second vice-president; William Turney, treasurer, and A. J. Connolly, recording secretary. At a subsequent meeting Capt. James Higgle was initiated as a member, and installed as the financial secretary of the lodge. In 1891, 50 new members were admitted. This lodge now has a large and commodious club room and lodge room in La Grand Hall, corner of Wells and Kinzie streets.

*Cleveland Lodge No. 4.*—After establishing the Chicago lodge, the organizers visited Cleveland, and without much delay succeeded with the aid of Capt. Ed. Kelley and Capt. John Nelson (both now deceased), in getting together a sufficient number of masters for a preliminary meeting in Van Tassel's hall on Detroit street. This meeting was called to order by Capt. William Cummings. The constitution was read, reciting that the aims were for mutual improvement, and could not become a labor organization. Captain Cummings was the first to endorse the project. The Cleveland lodge was then organized, and Capt. Ed. Kelley was chosen president; Capt. John Hall, first vice-president; Capt. William Cummings, second vice-president; John Nelson, treasurer; Capt. William Collins, financial secretary, and Capt. Edward Mooney, recording secretary. In the winter of 1891 more commodious quarters were desired, and rooms in the old board of trade building, at No. 122 Waterstreet, were secured, consisting of lodge room, reading room and club room. These were newly furnished, in 1895, including a valuable library, chart table, and mariners' globe, two billiard tables, card, whist, and checker tables, desks and all necessary furniture. The drawers of the chart table contain all the charts published of fresh-water localities, and the most important of the charts relating to salt-water navigation.

The Cleveland lodge has perhaps the largest membership of the association, and its pleasant rooms are well occupied by the members during the winter months.

*Bay City Lodge No. 5.*—Bay City mariners were the next to adopt the course of the larger cities, and a lodge was organized at that port in February, 1890. The first meeting in Bay City was held in the office of Capt. C. T. Weeks, and an election of officers resulted in choosing Capt. D. M. Pierce for president; Henry Bennett for vice-president; George H. Lester, second vice-president; Joseph G. Souer, treasurer; Herman Bennett, secretary. This lodge continued to grow and prosper, and the following year large rooms were secured in the Watson block and furnished with all things



necessary for the pleasure and comfort of the members.

*Milwaukee Lodge No. 6.*—In February, 1891, the attention of the organizers was turned toward Milwaukee, where they were met with much enthusiasm; a charter was granted in response to a petition of 37 names, and rooms were secured on Reed street. At the first election of officers, Capt. James Leisk was chosen president; F. C. Maxon, first vice-president; W. F. McGregor, second vice-president, and R. L. Vance, secretary. The Milwaukee lodge has grown strong in numbers as years have passed, and has now perhaps the most valuable library in the order. The lodge was assisted in collecting this library by wealthy and influential citizens, who contributed \$600 for that purpose, adding \$500 more for furnishing the lodge rooms. The lodge has a full set of charts, chart table, sextant, globes, etc., maps, pictures, models, drawings, and furniture of a total cash value of \$1,600, including the library. The property is in charge of three trustees. Owners find it good policy to encourage this order; they consider that a vast amount of good is springing from it.

*Detroit Lodge No. 7.*—Detroit mariners, who had been labored with in the spring of 1890 without result, now expressed a desire to form a lodge, and in March, 1891, Grand President Clark responded, accompanied by the father of the order, Capt. Martin Niland, who acted as grand marshal. This lodge was organized with 34 charter members, and Capt. George McCullough was elected president; Capt. Charles L. Wilson, vice-president, and Capt. John C. Shaw, secretary. By April the membership had increased to 90. In the following fall the members rented a large hall at the foot of Woodward avenue, and fitted it up in elegant style. In the new quarters are a library well stocked with useful books, a reading room, club room and meeting room.

*Marine City Lodge No. 8.*—The Marine City masters were the next to take up the line, and on February 10, 1892, a lodge was organized at that point by Grand Secretary W. A. Collier and Capt. R. E. Gain. Twenty-five names were recorded as char-

ter members, and the organization was perfected by the election of Capt. T. S. Walker as president, Capt. Ed. Allum as vice-president, and W. H. Scott as secretary. While there are many lake masters resident at Marine City, the lodge cannot be as strong in number as some of the others on account of many of the contiguous ports coming under the jurisdiction of Port Huron on one side and Detroit on the other. The lodge rooms are located in Hermann's hall, and meetings are held every Tuesday evening. While the lodge has a small membership, the prospects are now brighter than at any time since its organization.

*Toledo Lodge No. 9.*—The Toledo lodge was the last to organize. The organization was effected in 1892 by Grand President Clark, assisted by Capt. George Stoddard, of Toledo, who was lost on the Dean Richmond in the fall of 1893. Captain Stoddard was elected president, and E. G. Ashley, secretary. Under Captain Stoddard's administration this lodge grew rapidly; he was recognized as one of the ablest officers in the association. The lodge has elegant and comfortable quarters in the Marine Building, the meetings are well attended, and great interest is shown in the movement.

The first convention of the association was held in Buffalo, N. Y., January 8, 1891. Each lodge was entitled to two delegates for every 25 members. What is designated as the Grand Lodge was then formed, and the officers were selected from the different local lodges.

The second meeting of the Grand Lodge was held in Cleveland, January 21, 1892; seven lodges, with a membership of 800 masters, were represented. The growth of the association during the year was great, showing an increase of 120 per cent. The treasurer's report showed that during the year \$9,000 had been paid out in death benefits. The old officers were re-elected.

The third meeting of the Grand Lodge was held at Port Huron, Mich., January 17, 1893. Nine lodges, with a membership of 900, were represented. The reports showed that \$11,840 had been paid in death bene-

fits. At this convention the constitution was amended to some extent, and the name changed to Ship Masters Association. The old officers were again chosen.

On January 16, 1894, the fourth annual convention was held in Chicago. The report showed that the association had been prosperous in both numbers and finance, and that the new or amended constitution was working well. The report of the president showed that there were 1,000 members enrolled in the order, out of 1,086 masters of steam craft reported by the commissioner of navigation, thus making it evident that most of the licensed masters on the lakes had been members of the association. The secretary's report showed that during the year \$12,500 had been paid to widows and orphans of departed members. The first officers were again elected, as they had shown themselves diligent and active in their efforts to bring the association to a successful and prosperous condition.

The fifth annual meeting was held in Detroit, January 15, 1895. The president's report recited that, although the season had been a bad one, the order was in a flourishing condition. During the year thirteen assessments were made, and \$13,000 was paid out for death claims. New pilot rules were thoroughly discussed and carefully revised, and the Bill known as the White or Goulder Bill was indorsed by the convention. The provisions and details of this Bill had been advanced by experienced members of the association. At this meeting the mantle of presidency fell upon the shoulders of Capt. C. E. Benham, of Cleveland Lodge, the other officers being re-elected.

The sixth annual session of the Ship-Masters Association was held in Washington, January 21, 1896, and was presided over by Grand President C. E. Benham. This meeting of the Grand Association, according to custom, occupied most of its time not only in the consideration of purely technical and beneficial objects, but sought to come more in touch with the heads of bureaus and departments of the government. It was considered desirable to become personally acquainted with members of Congress, in order that those

whom they wished to influence toward supporting and advancing wise legislation for the benefit of the lake districts might see what manner of men these lake steamboat masters are. That is, it was the purpose of the association to present to the law-makers a body of men, sober, honest, intelligent and respected.

A resolution was adopted citing the great danger of collisions in the Sault Ste. Marie river, and asking for a committee to devise some means to make this artificial channel safer.

That a section of the Bill presented by Representative Payne, of New York, asking for a change in the present good system of fog signals on the lakes should be objected to.

That one of the menaces to lake pilots is the great size of sac rafts that are towed through the rivers. A committee was asked for to draft resolutions protesting against this custom, and request a change in the present raft regulations.

That a committee be appointed to take measures strenuously objecting to the placing in Detroit river of a bridge with great stone pier abutments, which would be a continual menace to numerous craft passing up and down that river.

That the attention should be called to the insufficient width of draw in the Lake Shore railroad bridge across the Maumee river at Toledo, and steps taken to have the draw widened.

The report of the grand financial secretary, W. A. Collier, shows the membership and finances of the association to be in good condition, the membership being in round numbers 500, being a slight increase over 1894.

The grand treasurer, Lyman Hunt, reports cash on hand in the endowment fund December 31, 1895, \$10,608; paid death claims, \$10,000; in the general fund, \$3,651; expenditures, \$1,662; balance on hand \$1,989; cash account, \$24,259; expenditures, \$11,662; balance in bank December 31, 1895, \$2,596.

The seventh annual convention of the association was held in Washington, January 20, 1897. The president's report called

attention to the fact that notwithstanding the business depression prevailing upon the lakes, the Ship Masters Association has had a steady growth, and that it was being upheld under adverse circumstances. He also urged the members to fly their pennants at all times, and that the next meeting should be held in a lake port city.

The grand financial secretary's report set forth the fact that the association was stronger in membership and funds than at any time since its organization, there being 525 masters in good standing, and that eleven death claims had been paid, which represent the loss of that number of members from the fraternity.

The grand treasurer's report shows the condition of the finances to be good, the cash on hand and received during the year being \$16,884, from all sources; death claims paid, etc., \$13,780, and balance in bank at the end of the year over \$3,000.

Some amendments were made to the constitution, and many pertinent resolutions adopted, among them urging the addition of gas buoys at different localities on the lakes; protesting against the Niagara river bridge as proposed; favoring a light-house instead of a lightship in the channel of the Maumee river at Toledo; and many others of a general nature of benefit to the lake navigator.

The officers elected were George McCullough, grand president; W. E. Rice, grand vice-president; W. A. Collier, grand financial secretary; Lyman Hunt, grand treasurer.

Great good is being done by the Ship Masters Association, both from a fraternal and business point of view. Since its organization it has paid to widows and orphans for the loss of their protectors in a beneficent way \$70,000. If for no other reason it desires the confidence and support of all the masters on the lakes. The members are making notable efforts for their own advancement in the knowledge and science of their calling.

The eighth annual meeting of the grand lodge was held in Milwaukee, Wis., January 25 to 27, 1898. Perhaps the most important work of the convention was the adop-

tion of resolutions, asking the attention of the government to the importance of the inter-lake commerce, and suggesting that an office be created which should have charge of intro-State maritime commerce, and the official to be invested with the dignity and portfolio of a cabinet officer, to promote and control the maritime commercial interests of the nation.

Other suggestions made were for a thorough survey of the St. Lawrence river, and the establishment of range lights, lightships, lighthouses and fog signals at various places on the lakes.

The reports of the grand secretary and grand treasurer show that, during the last year, nine death claims, amounting to \$9,000, have been paid, and that the endowment fund shows a balance of \$2,477, \$1,500 of which was transferred from the general fund, which was, previous to the transfer, \$4,168.95, leaving a balance in the general fund after the expenses of the grand lodge were paid of \$693.43.

The officers elected at the eighth annual meeting of the Ship Masters Association, which was held in Milwaukee, January 25 to 28, 1898, are: Grand president, William E. Rice, of Port Huron; grand vice-president, Henry Leisk, of Milwaukee; grand secretary, W. A. Collier, of Cleveland; grand treasurer, Lyman Hunt, of Buffalo.

#### MASTERS AND PILOTS OF STEAM VESSELS.

The American Association of Masters and Pilots of Steam Vessels, which has now become national in its character and scope, was organized in New York City, January 17, 1887, on board the side-wheel steamer Minnehanneck, by 28 masters and pilots. The names of the men who took the initial measures to make the first voyage of this great association a successful one are as follows: Captains Luther B. Dow, David Bird, Jesse Q. Hoffman, Jr., John McCarty, Wm. H. Rightmeyer, Andrew Hart, John Bradley, Frank H. Ward, Henry Cattermot, John W. Taxter, Wm. H. Booker, Richard Graham, Robert Russell, Christopher Riley, Neil Neilson, David M. Manning, Andrew P. Sandeau, Frank J. Risedorf, Wm. Walcott, Wm. H. Foraker,



John Brightson, Wm. Kain, Samuel Townsend, Luther Holmes, John R. Denmary and Geo. W. Dunn.

At this first voyage, Alpha Harbor No. 1 was organized under the title of the American Brotherhood of Steamboat Pilots. A hall was rented at No. 207 Third avenue, New York City, for the next voyage. Harbor No. 1 prospered from the date of its first voyage, and from it was organized Enterprise Harbor No. 2, of Camden, N. J.; Mariners Harbor No. 3, of Rondout, N. Y.; Volunteer Harbor No. 4, East Boston, Mass.; Excelsior Harbor No. 5, Brooklyn, N. Y.; Jersey City Harbor No. 6, Jersey City, N. J.; Capital City Harbor No. 7, Albany, N. Y.

All these harbors were established by September 1, 1887. It was then determined by Harbor No. 1 to request each harbor to send delegates to New York City, to meet in convention October 2, 1887, for the purpose of establishing a grand harbor. Every harbor except No. 3, of Rondout, N. Y., responded to the call, and sent three delegates each. After a voyage of two days, the Grand Harbor was established, by adopting a grand harbor constitution and by-laws for its own government and the government of the subordinate harbors. The following named Grand Harbor officers were chosen: Frank W. Ward, No. 1, G. C.; Geo. S. Tuthill, No. 5, G. F. P.; Wm. S. Durker, No. 4, G. S. P.; Wm. J. Hut-ton, No. 6, G. P.; Benj. F. Perkins, No. 2, G. C. C.; Jonathan Chase, No. 4, G. chaplain; Jas. Gallaher, M. F. Lindle, No. 2, G. S. Q. M.; Samuel F. Felver, No. 6, Frank J. Risedorf, No. 1, G. P. Q. M.; U. Cummisky, No. 4, G. S. W.; Thos. A. Bassender, No. 5, G. F. D. W.; U. Cummisky, No. 4, Wm. Hulings, No. 5, Jonathan Chase, No. 4, G. T.

The annual voyages of the Grand Harbor was held in several cities until the Grand Harbor voyage held in Brooklyn, N. Y., January, 1892, when it was ordered that all future voyages of the Grand Harbor should be held in Washington, D. C., in that they might be in touch with those in authority when offering suggestions as to the changes of the steering and sailing rules

and the revised statutes. The results obtained from the change has proven the move to have been wise. During the Grand Harbor voyage held in Washington, D. C., in January, 1893, the title was changed to "The American Association of Masters and Pilots of Steam Vessels."

The beneficial features of the association are similar to other organizations in which it provides for its members and their families. It has a mutual life insurance attached to it on the assessment plan, which has proved to be a success from its inception. The assessment is 25 cents on each member belonging to the insurance—upon death or a total disability. No officer having charge of the insurance, either in the Grand or Subordinate Harbor, receives any salary. Every cent collected from the 25 cent assessment is paid to the beneficiary.

The association does not interfere in any manner with the wage question, believing that the law of supply and demand with good sense of equity will regulate all differences of this kind, should any exist.

The association has prospered far beyond the expectations of those who established it eleven years ago in New York City. It now has several thousand members on its rolls, and is increasing its membership every year. From its inception it has always endeavored to enlist the owners of steamboat lines; also superintendents, to affiliate with it. that they may know that this association has been established in their interests, and that the interests are identical.

It is claimed that since the association has been established a better feeling prevails among pilots and masters, and that collisions are less frequent; and that when a collision does occur it is an unavoidable accident that could not be foreseen. Many thousands of dollars of property have been saved by the timely aid given by members of this association to a brother in distress, and nothing charged for the service rendered.

It seeks to elevate the profession of a master and pilot in all its particulars, that those who may command shall be educated up to the highest standard in the profession, and that he shall be an honorable

gentleman in all the word implies. There is no class of skilled labor in any profession who give a more exhaustive service, or who have as grave responsibilities resting upon them as the masters and pilots. Few people who travel in steamers realize the grave responsibility of the solitary man in command, whether he be a master of a steamship or pilot of an inland steamer. A slight error in judgment on his part would send many into eternity without a moment's warning.

This association has become popular on the lakes during the last two or three years, and there have been organized Harbors No. 42, at Cleveland, Ohio; No. 43, at Toledo, Ohio; No. 44, at Duluth, Minn.; No. 45, at West Bay City, Mich.; No. 46, at Port Huron, Mich.; No. 47, at Detroit, Mich.; No. 33, at Chicago; No. 34, at Saugatuck, Mich.; and No. 41, at Buffalo.

The annual convention of the American Association of Masters and Pilots of Steam Vessels for 1898 was held at Washington January 17. One of the lake representatives, Capt. Albert S. Fitts, of Toledo, was elected to the position of grand second pilot. It was resolved that the next convention should take place in 1900. Annually the national officers will meet to confer, but the regular delegate gathering has been made biennial. The association is in a prosperous condition, having several thousand names on the rolls.

The following officers were elected to serve two years: William Van Keuren, Rondout, N. Y., grand captain; William S. Durkee, Boston, grand first pilot; Albert S. Fitts, Toledo, grand second pilot; Benjamin F. Perkins, Camden, N. J., grand captain's clerk, and Luther B. Dow, Brooklyn, grand purser; the only change being that of second pilot.

The work of the convention was confined largely to a discussion of legislative matters. Senate Bill 95, introduced by Senator White, of California, and providing for the protecting of American seamen from harsh treatment by masters of vessels, was indorsed. Several Bills have been introduced into Congress relative to the steamboat inspection service, to the widening of drawbridges

at various points, to lighthouses, etc. These will receive the attention of the legislative committee, and this same committee will also look after routine matters that will require attention throughout the year.

*The Buffalo Harbor Tug Pilots Association* was organized in the early spring of 1892, for the purposes indicated by its name. The principal movers in effecting the organization were Capt. Luman P. Cole and Capt. Benjamin F. Sutter. At first there were 27 members in the association, but the objects for which it was established quickly became so popular that the membership rapidly increased, and in 1897 there were 167 members enrolled. The jurisdiction of this association extends from Erie, Pa., to Charlotte, N. Y., at the mouth of the Genesee river, and this territory is named the Buffalo Creek District.

The first officers of the association were as follows: Capt. Luman P. Cole, president; past president, Capt. Michael Carr, elected; Capt. Patrick Lynn, vice-president; John R. Glover, secretary; Capt. Benjamin F. Sutter, treasurer; Joseph Lawson, senior master of ceremonies; Joseph Green, junior master of ceremonies; Timothy Higgins, inside guardian, and Thomas Higgins, outside guardian.

A list of the officers of this association is as follows: Presidents—Capt. Luman P. Cole, 1892 to 1895; Harley Vroman, 1895; Capt. Richard Lamphier, 1896; Capt. Luman P. Cole, 1897-98. Vice-presidents—Capt. Patrick Lynn, 1892 to 1895; John Farrell, 1895; Harry Larkin, 1896; Thomas Doyle, 1897; Robert Johnson, 1898. Treasurers—S. M. Sloan, 1895 to 1897; A. G. Gilbert, 1898. Financial secretaries—A. G. Gilbert, 1895 to 1897; J. M. Green, 1898. Corresponding secretaries—James P. Fontaine, 1895; Joseph Green, 1896 and 1897; William G. Fox, 1898. Senior master of ceremonies—Henry Hart, 1895; Thomas Doyle, 1896, and Joseph Lawson, 1897. Junior master of ceremonies—Frederick Ferguson, 1895; Edward Smith, 1896, and Timothy Higgins, 1897. Outside guardian—John Hardie, 1895 to present time. Inside guardian—Timothy Higgins, 1895; Thomas Higgins, 1896, and W. J. Smith,

1897. Chaplain — Adam Hartman, 1892 and 1893; James Burns, 1897; Michael Burns, 1898.

#### MARINE ENGINEERS BENEFICIAL ASSOCIATION.

Since steam was introduced on the Great Lakes about eighty years ago the evolution of the marine engineer has been remarkably rapid. He is the one class of marine craftsmen that, above all others, has been obliged to keep pace with the developments of this fast speeding age, and he perhaps stands today the most finished mechanic of a century, that has created more new types and more new occupations than any that has preceded it. His importance is not always recognized by the non-seafaring man, as his identity is concealed from the view of those who travel in steamers. Down in the bowels of the vessel he controls not only the propulsion, but the steering, lighting, pumping, anchoring and ventilation of the modern marine structure, and on the great warship he is even responsible for the maneuvering of heavy guns. The eyes that steer the ship are those of the officer of the watch, but the brain that forces the steamer to her destination and regulates her internal economy is that of the marine engineer.

The class of men chosen to take charge of the steamboat possess more than ordinary intelligence, courage and resource, and in case of disaster to steamboats, involving loss of life, the engineer is among the doomed. He stands to his post as long as duty and humanity require.

Owing to the great demand for steamboats on the lakes, many first-class machinists fitted themselves for the responsible duties of the marine engineers over a quarter of a century ago, and in time they became so numerous that it was advisable to form associations for self-protection and advancement in knowledge and competency. Several of these associations were formed in the great lake ports, but it was not until February 21, 1875, that a national body was organized. On that date delegates from different brotherhoods on the oceans, lakes and rivers met in Cleveland and completed an organization on a broad basis, now known as the Marine Engineers Bene-

ficial Association. This delegation was composed of Garret Doun and James V. Hayes, of Buffalo; R. Doty, William Kennedy and James L. Lord, of Cleveland; Thomas Buchanan, of Detroit; J. W. Shea, of St. Louis; William Shaffer and A. L. Foote, of Baltimore; and William Ponsonby, of Chicago. These engineers adopted a constitution and arranged a system of secret work, each member of this convention being empowered to institute subordinate associations.

From this small beginning the number of associations has multiplied until the marine engineer is now represented by an association in every maritime district of the United States, by 100 subordinate lodges on the lakes, the rivers and oceans.

The objects of the association are very conservative. It does not encourage strikes, nor support any conflict between vessel-owners and individual engineers; but it does claim the right to demand equitable compensation for the skill of its members and the hourly danger inseparably connected with their profession. It claims that only by mutual acquaintance and combination can injustice be prevented. By constant devotion to the objects of their organization do the engineers encourage the younger members especially to advance, with the rapid strides now being made in marine engineering, so that by bestowing close attention to the exercise of their duties, combined with an intelligent zeal in mastering the higher branches of their profession, they may reach the enviable and worthy positions gained by many of their fellow-craftsmen. They hold that by a thorough and steady application of the principles inculcated by the association the members shall raise themselves in their calling, and thus increase the demand for their skill by employers, who seldom fail to appreciate sterling qualities.

The association is not controlled by any section of the country, nor by any particular class of marine engineers. It aims to dissipate misunderstanding and prejudice throughout the land, the members holding each other as brothers, in fact as well as in name. It is the common desire to ele-



vate the character, social standing and qualification of every marine engineer.

While advocating these precepts, the marine engineers as a body hold that they are made to observe and conform to the laws governing the steamboat inspection service, they feel justified in demanding the protection of that department of the United States Government, and that they can do this in no better way than to see that those laws are administered and executed, as it was intended they should be. If they find in any instance that the laws are violated, they feel it their duty to report the offenders to their national president, so that he may lay the matter before the proper authority for investigation. In this they are not governed by a feeling of malice or persecution, and are thus enabled to command the consideration of the officers of the steamboat inspection service.

Owing to the rapid growth and magnitude of the order, the office of national president was a few years ago made a salaried one, which enables him to devote his entire time to the interests of the subordinate associations. The present presiding officer has held the position five terms. The officers of the National Marine Engineers Beneficial Association for the year ended December 31, 1898, are: National president, George Uhler, Philadelphia, Pa.; national vice-president, F. A. Jones, San Francisco, Cal.; national secretary, Thomas F. Dowd, Chicago, Ill.; na-

tional treasurer, J. J. A. Williams, New Orleans, La.

The subordinate associations on the lakes, with their numbers, are located as follows:

- No. 1—Buffalo, New York.
- No. 2—Cleveland, Ohio.
- No. 3—Detroit, Michigan.
- No. 4—Chicago, Illinois.
- No. 9—Milwaukee, Wisconsin.
- No. 27—Bay City, Michigan.
- No. 37—Toledo, Ohio.
- No. 39—Erie, Pennsylvania.
- No. 43—Port Huron, Michigan.
- No. 44—Manistee, Michigan.
- No. 46—Clayton, Jefferson Co., New York.
- No. 47—Sault Ste. Marie, Michigan.
- No. 48—Sandusky, Ohio.
- No. 51—Muskegon, Michigan.
- No. 53—Marine City, Michigan.
- No. 54—Charlevoix, Michigan.
- No. 55—Cheboygan, Michigan.
- No. 67—Saugatuck, Michigan.
- No. 72—Oswego, New York.
- No. 73—Fort Howard, Wisconsin.
- No. 75—Alexandria Bay, New York.
- No. 76—Grand Haven, Michigan.
- No. 77—Manitowoc, Wisconsin.
- No. 78—Duluth, Minnesota.
- No. 85—Alpena, Michigan.
- No. 86—Menasha, Wisconsin.
- No. 87—Detroit, Michigan.
- No. 88—Sturgeon Bay, Wisconsin.
- No. 89—Ogdensburg, New York.
- No. 90—Ludington, Michigan.
- No. 91—Ashtabula, Ohio.
- No. 92—East Saginaw, Michigan.
- No. 95—Port Clinton, Ohio.
- No. 96—Houghton, Michigan.
- No. 102—South Haven, Michigan.



## CHAPTER XXVI.

### NAVIGATION.

EARLY PERILS, ETC.—DANGER POINTS ON LAKE ERIE—PROPOSED DOUBLE TRACK ON LAKE HURON—RECENT WRECKS—NAVIGATION RULES—PERIOD OF NAVIGATION—OPENING AT THE STRAITS OF MACKINAC; AT THE ST. MARY'S RIVER; AT BUFFALO; AND THROUGH THE WELLAND CANAL—MARINE POST OFFICE AT DETROIT—TOWING SAIL VESSELS THROUGH THE RIVERS—HARBOR TUGS, ETC.

Ships that pass in the night, and speak each other in passing,  
Only a signal shewn, and a distant voice in the darkness.

—*Tales of a Wayside Inn.*

A mack'rel sky and mares' tails  
Make lofty ships carry low sails.

Sometimes we ship a sea,  
Sometimes we see a ship.

A rainbow towards night,  
Fair weather in sight.

Rainbow at night,  
Sailors' delight.

Rainbow in morning,  
Sailors, take warning.

Oft-times I have seen a tall ship glide by against the tide as if drawn by some invisible towline with a hundred strong arms pulling it. Her sails hung unfilled, her streamers were drooping, she had neither side wheel nor stern wheel; still she moved so stately, in serene triumph, as if with her own life. But I knew that on the other side of the ship hidden beneath the great hulk that swam so majestically, there was a little, toiling steam tug with a heart of fire and arms of iron, that was hugging it close and dragging it bravely on; and I knew that if the little steam tug untwined her arms and left the tall ship, it would wallow and roll about, and drift hither and thither, and go off with reflux tide, no man knows whither.

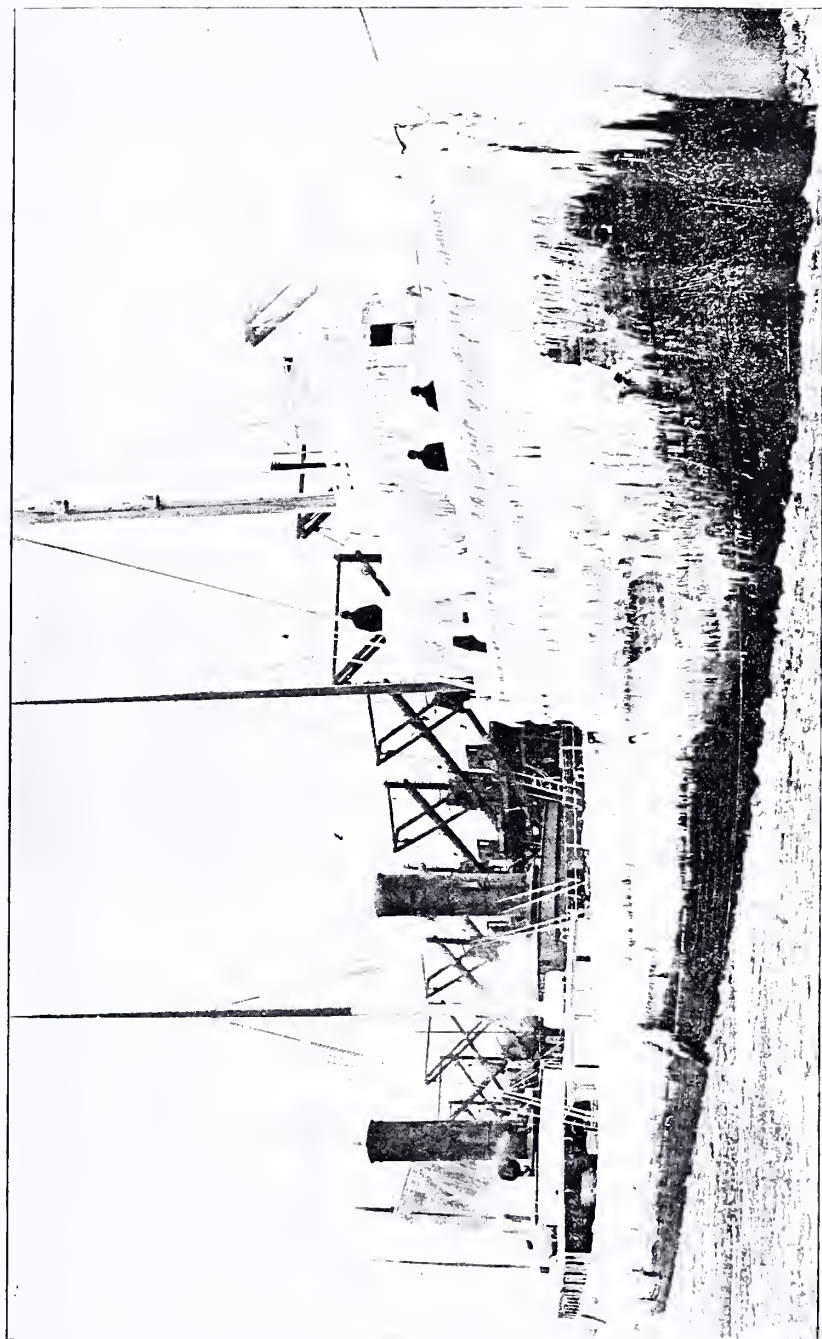
—*Oliver Wendell Holmes.*

THE navigation of the Great Lakes has been considered incidentally in many of the preceding chapters, and is also intimately connected with much of the history that follows this chapter. Navigation, in fact, is practically the whole of this history.

It is purposed in this chapter merely to collect a few of the more notable facts and transformation scenes which have reference to the history of sailing upon the Great Lakes.

Before government improvements began there were many perils to navigation, now happily ended. Of harbors, there were none, and shifting sand bars closed the mouths of rivers. Channels and reefs were unmarked. Wreck was the common fate of the venturesome schooner or steamboat during the first half of the present century. The comparative loss to human life, to hull and to cargo, was much greater than now. It was largely this growing and tremendous loss which led to the inauguration of those many aids to navigation which the tide of human progress now demands. Harbors were built, sand bars removed, channels cut through intermediate waterways, light-houses erected to guide and direct, life-saving stations established to succor in time of tempest and danger, weather signals created to warn of coming storms, danger points carefully and thoroughly marked by buoys.

In the early days of lake navigation there were but few conveniences for repairing vessels. There were no dry docks nor railroads. To caulk a vessel's bottom or to repair below the water line, she had to be hove down, and to have a thorough repair she had to be placed on ways and hauled out of the water. Harbors were not to be found, except in the shape and form that nature herself had provided. There were



AFTER A TRIP LATE IN THE FALL.





no charts, no land marks, nor lighthouses. The lead was about the only guide the sailor had. The blue pigeon was kept constantly on the wing in a dark night, or in making a port, or in dangerous waters. Besides all this the ground tackling was quite inferior to what is now in use. Toward the latter part of the seasons, when freezing weather was present, it was no easy matter to handle the big hemp cable while riding out a gale on a lee shore. When the cable would freeze almost as soon as it was drawn out of the water, it was next to impossible to bend it round the windlass.

In those days the hawse pipes were made of lead and kept smooth to prevent chafing, and when an anchor was let go and a scope of cable given, parcelling was put upon the cable in the wake of the hawse-hole, to keep it from chafing, and was renewed every watch in heavy weather by putting on fresh parcelling and surging or paying out more cable until the new parcelling came into the hawse, when the old one was taken off inside.

The vessels built in those days were much inferior to those built at the present day, both in size and model. And sailing on the lakes was much more dangerous. Not only have vessels been improved in their sea-going qualities, but the harbors have been made more commodious and safer in every way, and lighthouses have been erected wherever necessary all round the lakes. In addition to all this the life-saving service has been established and brought to a high state of perfection and usefulness. Modern methods have been perhaps as fully applied to every phase of lake navigation as to any feature of civilized life upon the land.

The early difficulties of navigation on Lake St. Clair were thus described by a writer 40 years ago :

"Another very important work to the navigation of the lakes is the deepening of the channel in Lake St. Clair, a shallow sheet of water some twenty miles in length, through which all the trade of the Upper Lakes is obliged to pass. At the mouth of the river, which connects this lake with Huron, there is a delta of mud flats, with

numerous channels, which in their deepest parts have not more than ten feet of water, and would be utterly impassible were not the bottom of a soft and yielding mud, which permits the passage of vessels through it under the impulse of steam or a strong wind."

James L. Barton, a gentleman long connected with the lake commerce, thus wrote some years ago upon this subject to the Hon. Robert McClelland, then chairman of the house committee on commerce :

"These difficulties are vastly increased from the almost impassible condition of the flats in Lake St. Clair. Here steamboats and vessels are daily compelled in all weather to lie fast aground and shift their cargoes, passengers and baggage in lighters, exposing life, health and property to great hazard, and then by extraordinary heaving and hauling are enabled to get over. Indeed, so bad has this passage become that one of the largest steamboats, after lying two or three days on these flats, everything taken from her into lighters, was unable, with the powerful aid of steam and everything else she could bring into service, to pass over; she was obliged to give her freight and passengers to a smaller boat, abandon the trip and return to Buffalo. Other vessels have been compelled not only to take out all their cargoes, but even their chains and anchors have been stripped from them before they could get over. To meet this difficulty as far as possible, the commercial men around these lakes have imposed a tax upon their shipping, to dredge out and deepen the channel through these flats."

A few sailing craft still "go it alone." Steam propellers with their tows of one, two and often three schooners, do a large proportion of the carrying, particularly in the lumber trade. Of late a tendency has developed to enlarge and perfect this system of towing. A heavy shipper in Cleveland maintains that it takes a steamer and consort but three days longer to make the round trip than a steamer alone; that the crew of a schooner is very small as compared to that of a steamer, and that the coal used in increased power to tow is no more

than what would be used for the high speed of a steamer alone. The steam whalebacks often have tows of three steamless and sailless whalebacks. They carry enormous cargoes of coarse freights. The question of tows or no tows is not yet definitely settled, many changing conditions enter into the problem.

*Danger Points on Lake Erie.*—Many vessels, large and small, are lost each year on the Great Lakes. Our maps show the points of greatest danger in Lake Erie. The wreck map is based upon the annual charts issued by the Weather Bureau, and shows the location of the wrecks in Lakes Erie and St. Clair. The period covered is long enough to provide a basis for correct deductions.

The most dangerous place in Lake Erie is in the neighborhood of Point Pelee, near the western extremity of the lake. Off the point lies, like a satellite, Point Pelee island; between the two is a shoal. Point, shoal and island cause many wrecks each year. Long Point comes next in respect of danger. Its location, as a long spit of land running out nearly half way across the lake, is what constitutes its chief peril. The water is deep enough around it, but the point lies in the way of vessels and obliges them to take a roundabout course.

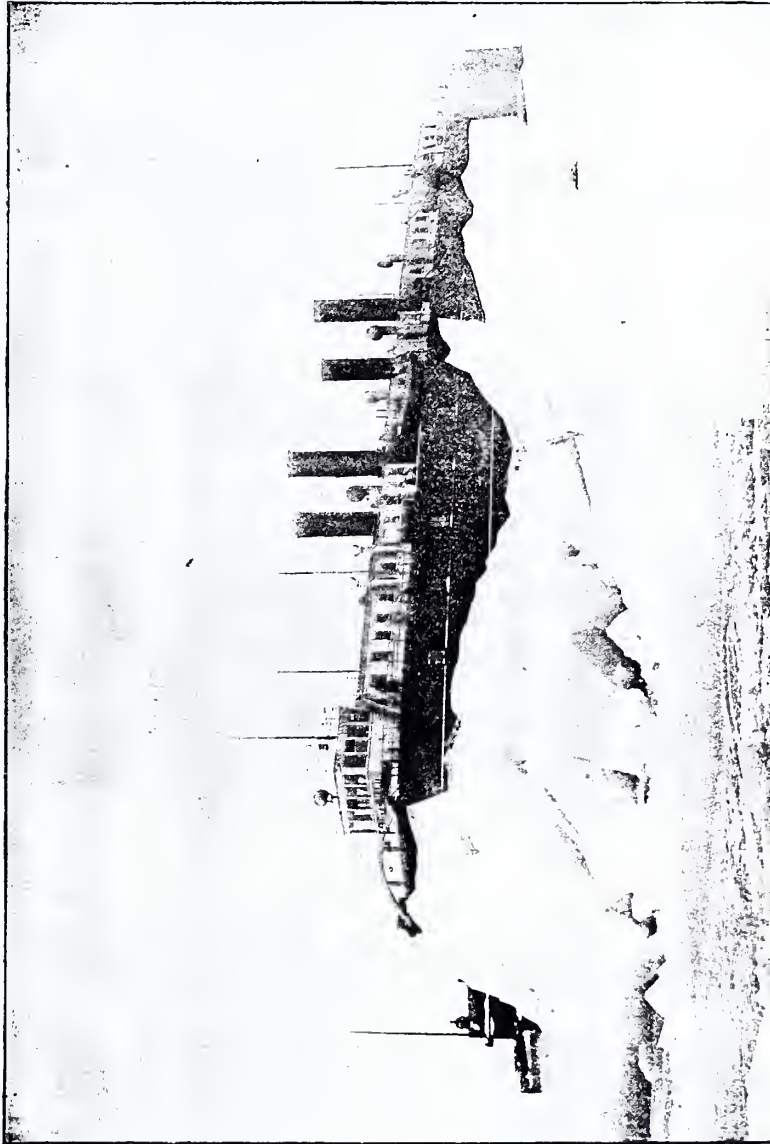
The deepening of the channels, and the consequent increase in the size of the boats, have had much to do with the number of wrecks off Point Pelee. The captains of the big boats are finding shoals that the little vessels passed over in safety. This new peril is a recent development—an event of the last few years.

One of the greatest sources of danger, in lake navigation, is the number of vessels, all traveling the same road. They are all running up and down the lakes, on parallel lines. Collision constitutes one of the chief causes of loss upon the Great Lakes.

*Proposed Double Track on Lake Huron.*—The suggestion has recently been urged that navigation may be made safer and easier by the adoption of a double track on Lake Huron. Capt. J. S. Dunham, of Chicago, refers to the great number of col-

lisions that have occurred in the vicinity of Presque Isle, Lake Huron, and is credited with the idea of providing means to have up-bound vessels take a course some distance out from the west shore of Lake Huron, while down-bound vessels would pass closer to the land. "The scheme" says the *Marine Review*, "has its advantages, but it would be very difficult to enforce rules that would make it effective. The time is not far off, however, when the growing commerce of the lakes will demand the adoption of measures of this kind. One course on Lake Huron, according to Capt. Dunham's idea, would be for all up-bound boats in leaving St. Clair river at Port Huron to keep out in the lake until they were from eight to twelve miles outside the course they now follow. They would maintain this course all the way to Presque Isle. When bound for Lake Superior they would continue the same distance to the eastward, finally returning to the old course at Detour. When bound for Lake Michigan they would cross over above Presque Isle and come back to the old course there. All boats bound down would keep close to the shore, following the present course. Vessels from Lake Superior bound down would cross the courses of Lake Michigan boats bound up. Thus, only at one point the entire length of Lake Huron would boats running in opposite directions meet. As soon as that point was passed captains would be certain that however thick the fog they were safe, for no boats would be coming in the opposite direction. All they would have to look after would be boats bound the same way, and it would be an easy matter to avoid them. The objection of having two courses—that some time might be lost on the up trip by boats keeping out in Lake Huron—is met by the statement that while a little time might be lost in pleasant weather, yet the gain of being free to run at a fair speed notwithstanding foggy weather would far more than overcome the loss. This is not taking into account the great increase in safety. Down-bound boats would not lose any time either from Lake Michigan or Lake Superior. They would keep along the course they have always followed, free to





CAR FERRY STEAMER SAINTE MARIE.  
Passing through 36 inches of ice.



run, with nothing ahead of them. To make the two courses effective, vessels should be required to keep on them in all weather, for with the fickleness of the Lake Huron fog there is never any telling when the surface of the water will give forth a cloud."

TABLE OF WRECKS AND CASUALTIES ON THE GREAT LAKES IN RECENT YEARS, COMPILED BY E. T. CHAMBERLAIN, UNITED STATES COMMISSIONER OF NAVIGATION.

YEAR	VESSELS WRECKED	TOTAL WRECKS	PARTIAL WRECKS	VESSELS TOTALLY LOST	VESSELS DAMAGED	LOSSES TO VESSELS	LOSSES TO CARGOES	PASSENGERS	CREWS	LIVES LOST
				<i>Tons</i>	<i>Tons</i>					
1878.....	263	63	200	13,455	72,582	\$ 648,470	\$300,155	224	2,156	38
1879.....	208	36	172	8,961	60,618	468,035	147,790	526	1,754	14
1880.....	341	53	288	10,896	110,704	750,575	455,085	481	2,908	29
1881.....	354	68	286	16,298	111,693	973,725	447,375	1,088	3,021	127
1882.....	321	39	282	10,291	117,403	933,990	265,605	298	2,839	71
1883.....	295	51	244	11,977	109,183	749,005	124,030	209	2,472	55
1884.....	323	63	260	16,940	112,267	1,158,625	470,265	381	2,863	91
1885.....	239	37	202	8,232	95,301	814,645	211,790	179	2,232	18
1886.....	220	51	169	12,706	88,706	824,845	148,445	184	1,969	78
1887.....	339	64	275	15,852	131,378	1,048,150	371,060	1,069	3,150	103
1888.....	319	75	244	19,147	126,874	1,074,200	418,545	448	2,940	83
1889.....	264	50	214	12,690	149,535	1,039,725	189,355	66	2,742	26
1890.....	298	40	258	15,665	191,578	1,434,055	263,085	1,149	3,300	8
1891.....	337	63	274	17,453	214,600	1,339,805	243,490	1,607	3,556	50
1892.....	367	68	299	18,001	261,172	1,740,825	544,425	164	3,887	38
1893.....	325	51	274	20,540	206,741	1,763,320	445,220	376	3,352	102
1894.....	334	79	255	31,653	222,608	1,970,070	482,240	696	3,538	110
1895.....	265	41	224	20,524	210,716	1,835,075	401,515	801	3,112	76
1896.....	358	66	292	23,694	328,188	1,581,695	443,850	1,359	4,051	31
1897.....	229	35	194	13,236	295,389	1,087,405	195,475	1,018	2,970	18

*Navigation Rules.*—The following aids to memory, written by Thomas Gray, have been reprinted by the Bureau of Navigation:

TWO STEAMERS MEETING END ON OR NEARLY  
END ON.

Meeting steamers do not dread  
When you see three lights ahead!  
Port your helm and show your Red.

TWO STEAMERS PASSING.

For steamers passing you should try  
To keep this maxim in your eye.  
Green to Green—or Red to Red—  
Perfect safety—go ahead.

TWO STEAMSHIPS CROSSING. THIS IS THE REAL  
POSITION OF DANGER. THERE IS NOTHING FOR  
IT BUT GOOD LOOK-OUT, CAUTION AND JUDG-  
MENT.

If to Starboard Red appear,  
'Tis your duty to keep clear;  
Act as judgment says is proper.  
Port, or Starboard - back, or stop her!  
But when on your port is seen  
A steamer with a light of Green,  
There's not so much for you to do—  
The Green light must keep clear of you.

ALL SHIPS MUST KEEP A GOOD LOOK-OUT, AND  
STEAMSHIPS MUST STOP AND GO ASTERN, IF  
NECESSARY.

Both in safety and in doubt,  
Always keep a good look out;  
Should there not be room to turn,  
Stop your ship and go astern.



*Period of Navigation.* — The general navigation of the lakes opens with the opening of the Straits of Mackinac. These straits open on the average about the 20th day of April. The close of navigation is largely influenced by the practices of the insurance companies. The following table shows the dates of the opening of the Straits of Mackinac since 1854:

YEAR	OPENED	YEAR	OPENED	YEAR	OPENED
1854....	April 25	1869... April 28	1884... April 25		
1855....	May 1	1870... April 18	1885... May 5		
1856....	May 2	1871... April 2	1886... April 21		
1857....	May 1	1872... April 28	1887... April 24		
1858....	April 5	1873... May 1	1888... May 4		
1859....	April 3	1874... April 29	1889... April 6		
1860....	April 13	1875... April 28	1890... April 8		
1861....	April 25	1876... April 28	1891... April 20		
1862....	April 18	1877... April 18	1892... April 3		
1863....	April 17	1878... March 15	1893... April 17		
1864....	April 28	1879... April 22	1894... April 2		
1865....	April 21	1880... April 4	1895... April 11		
1866....	April 29	1881... May 3	1896... April 16		
1867....	April 23	1882... April 3	1897... April 9		
1868....	April 19	1883... April 28	1898... April 2		

The following table shows the opening and closing of St. Mary's Falls canal since its completion in 1855:

YEAR	OPENED	CLOSED	YEAR	OPENED	CLOSED
1855...	June 18	Nov. 23	1877... May 2	Nov. 30	
1856...	May 4	Nov. 28	1878... May 8	Dec. 3	
1857...	May 9	Nov. 30	1879... May 2	Dec. 3	
1858...	April 18	Nov. 20	1880... April 28	Nov. 15	
1859...	May 3	Nov. 28	1881... May 7	Dec. 5	
1860...	May 11	Nov. 26	1882... April 21	Dec. 3	
1861...	May 3	Nov. 14	1883... May 2	Dec. 11	
1862...	April 27	Nov. 27	1884... April 23	Dec. 10	
1863...	April 28	Nov. 24	1885... May 6	Dec. 2	
1864...	May 2	Dec. 4	1886... April 25	Dec. 24	
1865...	May 1	Dec. 3	1887... May 1	Dec. 20	
1866...	May 5	Dec. 3	1888... May 7	Dec. 4	
1867...	May 4	Dec. 3	1889... April 15	Dec. 4	
1868...	May 2	Dec. 3	1890... April 20	Dec. 3	
1869...	May 4	Nov. 29	1891... April 27	Dec. 8	
1870...	April 29	Dec. 1	1892... April 15	Dec. 7	
1871...	May 8	Nov. 29	1893... May 5	Dec. 9	
1872...	May 11	Nov. 26	1894... April 17	Dec. 6	
1873...	May 5	Nov. 18	1895... April 25	Dec. 11	
1874...	May 12	Dec. 2	1896... April 16	Dec. 8	
1875...	May 12	Dec. 2	1897... April 22	Dec. 12	
1876...	May 3	Nov. 26	1898... April 13	Dec. 14	

The opening and closing days of canal navigation at Buffalo since 1850, together with the opening of lake navigation, are shown in the following table:

YEAR	LAKE OPENED	CANAL OPENED	CANAL CLOSED	DAYS OPEN
1850.....	March 25	April 22	Dec. 11	233
1851.....	April 2	April 15	Dec. 11	240
1852.....	April 26	April 20	Dec. 16	240
1853.....	April 14	April 20	Dec. 20	244
1854.....	April 29	May 1	Dec. 23	217
1855.....	April 21	May 1	Dec. 10	224
1856.....	May 2	May 5	Dec. 4	213
1857.....	April 27	May 6	Dec. 15	223
1858.....	April 15	April 28	Dec. 8	224
1859.....	April 7	April 15	Dec. 12	241
1860.....	April 17	April 15	Dec. 22	251
1861.....	April 13	May 1	Dec. 16	230
1862.....	April 5	May 1	Dec. 7	221
1863.....	April 7	May 1	Dec. 18	232
1864.....	April 12	April 30	Dec. 6	221
1865.....	April 26	May 1	Dec. 12	226
1866.....	April 28	May 1	Dec. 12	226
1867.....	April 27	May 6	Dec. 10	218
1868.....	April 11	May 6	Dec. 7	215
1869.....	May 2	May 6	Dec. 10	218
1870.....	April 16	May 10	Dec. 10	214
1871.....	April 1	April 24	Dec. 1	221
1872.....	May 6	May 13	Dec. 1	202
1873.....	April 28	May 15	Nov. 20	190
1874.....	April 18	May 5	Dec. 5	214
1875.....	May 2	May 18	Nov. 27	194
1876.....	May 4	May 4	Dec. 1	211
1877.....	April 17	May 8	Dec. 7	213
1878.....	March 16	April 15	Dec. 7	237
1879.....	April 24	May 8	Dec. 6	212
1880.....	March 19	April 20	Nov. 20	215
1881.....	May 1	May 17	Dec. 6	204
1882.....	March 26	April 11	Dec. 7	241
1883.....	April 28	May 7	Dec. 1	207
1884.....	April 25	May 6	Dec. 1	208
1885.....	May 3	May 11	Dec. 1	204
1886.....	April 17	May 1	Dec. 1	214
1887.....	April 17	May 7	Dec. 1	207
1888.....	April 28	May 10	Dec. 3	207
1889.....	April 10	May 1	Dec. 1	214
1890.....	March 31	April 28	Dec. 1	216
1891.....	April 12	May 5	Dec. 5	214
1892.....	April 7	May 1	Dec. 5	219
1893.....	April 15	May 3	Nov. 30	212
1894.....	April 1	May 1	Nov. 30	214
1895.....	April 16	May 3	Dec. 5	217
1896.....	April 19	May 1	Dec. 1	215
1897.....	April 17	May 5	Nov. 30	210
1898.....	April 4	May 7	.....	.....

The dates of the opening and closing of Welland canal since 1866 have been as follows:

YEAR	OPENED	CLOSED	YEAR	OPENED	CLOSED
1866..	April 17	Dec. 16	1883..	April 5	Dec. 12
1867..	April 17	Dec. 19	1884..	April 23	Nov. 30
1868..	April 15	Dec. 6	1885..	May 7	Dec. 9
1869..	April 20	Dec. 11	1886..	April 19	Dec. 1
1870..	April 19	Dec. 18	1887..	May 3	Dec. 10
1871..	April 6	Dec. 1	1888..	April 23	Dec. 8
1872..	April 22	Dec. 10	1889..	April 16	Dec. 1
1873..	April 11	Nov. 29	1890..	April 15	Dec. 10
1874..	April 9	Dec. 10	1891..	Apr. 1	20 Dec. 16
1875..	May 3	Dec. 14	1892..	April 19	Dec. 12
1876..	April 17	Dec. 15	1893..	April 24	Dec. 11
1877..	April 17	Dec. 5	1894..	April 19	Dec. 10
1878..	May 7	Dec. 14	1895..	April 20	Dec. 12
1879..	May 5	Dec. 5	1896..	April 27	Dec. 15
1880..	April 20	Nov. 30	1897..	April 20	Dec. 11
1881..	May 2	Nov. 19	1898..	April 22	.....
1882..	April 30	Dec. 5	.....	.....	.....

*Marine Post Office at Detroit.*—The project of a marine postal delivery in connection with the Detroit post office was advocated for several years before the system was finally put in operation, the advantageous position of Detroit river, through which all vessels must pass in going to and from the upper and lower lakes being repeatedly pointed out. Its establishment was ordered June 19, 1895.

The details of the introduction of this service were worked out by Postmaster John J. Enright, of Detroit. The report of the service for the year 1896, which began April 16 and ended December 16, was as follows: Receipts of letters at post office—137,798; telegrams, 181; specials, 48; registers, 59; total pieces, 138,086. Receipts from boats—Letters, 37,303; telegrams, 442; specials, 19; total, 37,764. Total receipts from both sources—Letters, 175,101; telegrams, 623; specials, 67; registers, 59; grand total, 175,850 pieces.

Mail was delivered to passing boats during the season as follows: Letters—April, 1,600; May, 13,994; June, 19,876; July, 21,639; August, 19,549; September, 17,865; October, 17,693; November, 16,772; December, 2,085; total, 131,073. Telegrams, 181; specials, 48; registers, 59; total mail delivered, 131,361 pieces. Mail forwarded, 3,776; mail returned, 2,949; total 6,725 pieces.

During the season the number of vessel passages at Detroit was as follows: Day,

11,215; night 8,172; total 19,387; average number of pieces handled for each vessel, 9; stamps sold at station during season of 1896, \$175.30.

As affording a comparison showing the growth of the service over the first year the following figures are given: Mail received from main office and boats from June 19 to December 16, 1895, 46,994 pieces. Mail received from main office and boats from April 16 to December 16, 1896, 175,850 pieces, an increase over 1895 of 128,856 pieces.

The Detroit service is the only marine post office in the world, where every branch of the post office department of the government is carried on precisely as though the work was done on land. The mail for passing boats, many of them being the fast freight liners plying between Buffalo and Duluth, is handled by the carriers in row boats, the latter being towed out into the track of the vessels by a fast steam launch. By means of the launch the carriers are enabled to hail every passing boat, no matter how fast she may be going, and hence the service brings the humblest employe as well as the officers of a boat into communication with those ashore.

The business of the marine post office at Detroit in 1898 was more than 100 per cent greater than that of 1897. In that year there were handled approximately 240,000 pieces of mail on the river. For 1898 to November 20, with three or four weeks of navigation still to hear from, the figures were 487,300. The business is increasing so that a second small steam vessel will undoubtedly be required for the service before another season is at an end.

The service of what is known as river tugs was inaugurated in 1845 by the side-wheel steamer Romeo, of 180 tons. She was followed by the Tecumseh, the Little Erie, the Telegraph No. 2, and the propeller Odd Fellow, in 1848. In 1868 32 tugs were employed in transferring vessels through rivers from Lake Erie to Lake Huron.

*Towing Sail Vessels Through the River.*—Before the practice of towing sail vessels through Detroit river from Amherstburg to Port Huron became general some thirty

years ago, the marine scenes at Detroit were unequalled for picturesqueness. "A stiff northerly wind, blowing continuously for two or three days, making progress up-river against wind and current impracticable for sailing vessels," says Henry A. Griffin in the "Engineering Magazine," "not unfrequently caused the gathering of a fleet of 100 or 200 white-winged craft at the head of Lake Erie. Then at the first impulse of a favoring breeze they would up-sails and away all together, crowding the channel of the Detroit river to its full capacity. There would be stately brigs and two- and three-masted schooners, interspersed with the 'mosquito fleet'—the stone and lime and wood carriers of the river routes—taking the wind out of each other's sails so that the best sailors had little advantage in the race. The whole mass, compact and beautiful, and reaching for miles, moved slowly forward with the wind, but against the tide, creating a marine picture of vivid interest, never to be forgotten. But the exigencies of traffic began to require quicker time and larger hulls. Towing through from Lake Erie to Lake Huron became practically universal, so that the lake-carriers were no longer assembled in great fleets by adverse winds, but passed up and down the rivers regardless of the force or directions of the breezes, and wrecked and decaying said vessels were replaced by great steam barges with consorts in tow. There are many fine sailing craft still on the lakes, and occasionally a new one is launched, but by far the greater part of new tonnage is propelled by steam, and the day of the sailing vessel on the lakes is rapidly passing.

#### HARBOR TUGS.

The towing of vessels to and from harbors and their various intricacies has long been an important branch of lake navigation. At every lake port of any prominence tugs are now used, the number employed varying from one to 30 or 40.

Among the principal tug companies now doing business on the Great Lakes are the following:

Miles E. Barry, Independent Tug Line, Chicago, 2 steamers, 8 tugs.

Dunham Towing & Wrecking Co., Chicago, 14 tugs.

Milwaukee Tug Boat Line, 6 tugs and other vessels.

Williams, J. R., Duluth, 5 tugs.

Inman Tug Line, Duluth, 6 tugs.

Singer, W. H., Duluth, 6 tugs.

Gilchrist, F. W., Alpena, 4 tugs and other vessels.

Boutell & Smith, Bay City, 18 tugs.

Carkin & Stickney, Detroit, 5 tugs and other vessels.

Parker & Millen, Detroit, 3 tugs and other vessels.

Thompson Tug Line, Port Huron, 6 tugs.

Smith, John, Manistee, 5 tugs.

V. O. Towing Co., Cleveland, 16 tugs.

Cleveland Tug Co., Cleveland, 14 tugs.

Maytham Tug Line, Buffalo, 8 tugs.

Hand & Johnson, Buffalo, 8 tugs.

The *Dunham Towing and Wrecking Company*, of Chicago, represents a business which is nearly half a century old. This company was incorporated in December, 1884, but it is controlled and almost wholly owned by Capt. J. S. Dunham, its president, who has been actively engaged in towing since 1862.

Captain Dunham came to Chicago in 1854 from Troy, N. Y., as engineer of the tug *A. B. Ward*, a vessel which is still afloat. Those were the happiest days of his life. He had worked his way up to the position of engineer on the *Ward*, and felt that life was a success. In 1857 he became a part owner of two tugs, and took them to New Orleans via the Illinois canal. He returned in the spring of 1862 with the tug *Little Giant*, built in Philadelphia. This tug was taken in 1863 by the United States Government for service in the South. Captain Dunham, however, purchased another and continued the towing business at Chicago. There were about a half dozen tugs in operation here when he came. The number steadily increased until in about fifteen years it reached 40. These tugs were owned by individuals, who held from one to a half dozen or more each. The towing fleet of Captain Dunham had in 1884 increased to eight, when he incorporated the company with \$100,000 capital. It was about that time that individual ownership of tugs was succeeded by incorporated. Of the four



then established, the Dunham Towing & Wrecking Company is the sole survivor. The Chicago Towing Company and the Vessel Owners Towing Company retired from business about two years ago.

The Dunham Towing & Wrecking Company has increased its capital stock to \$200,000, and now owns and operates at Chicago the following 14 tugs: T. T. Morford, Perfection, O. B. Green, Mollie Spencer, Jas. McGordon, Mosher, G. W. Gardner, J. H. Hackley, Chicago, Robert Tarrant, L. B. Johnson, Protection, W. L. Ewing and A. Miller. The present officers of the company are Capt. J. S. Dunham, president and treasurer; R. J. Dunham, secretary; Capt. J. R. Sinclair, superintendent; Capt. Thomas Johnson, chief engineer and wrecking master. The same stockholders own the four tugs of the Hausler & Lutz Towing & Dock Company at South Chicago, namely: The T. C. Lutz, M. G. Hausler, Chas. Hulladay and C. W. Elphicke. The number of tugs now in service at Chicago is less than 15 years ago, but they are of much greater capacity, and tow vessels of much larger tonnage, so that the actual business has steadily increased. Besides being engaged in towing, the company conducts a wrecking business, owning, a full complement of wrecking appliances. It also operates a vessel repair department. Several years ago the company started machine, blacksmith and carpenter shops at the foot of North Market street, for the purpose of making its own repairs, but since then the business has steadily grown.

The only other towing business at Chicago is conducted by Barry Bros., who have been so engaged for about six years, and whose fleet now consists of 10 tugs.

*The Hand and Johnson Tug Line*, Buffalo, was established in 1871 by Capt. George R. Hand and others, the company that year putting in the tug G. W. Gardner, which Captain Hand had owned for some years. In addition to the G. W. Gardner they built the tugs Compound, James, Ash, C. W. Jones, and George R. Hand, and continued as at first organized until the death of Captain Hand in 1884. At this time Capt. John Johnson became manager

of the line, and Mrs. Hand gradually sold off her deceased husband's interests in the several tugs. For about eight years Captain Johnson was managing owner of most of the tugs and manager of the entire line.

In 1892 the company was incorporated with a capital of \$50,000. The first board of directors were as follows: James Ash, Capt. John Johnson, A. C. Adams, Charles Beatty, Daniel Mahoney, Thomas Mellen, Thomas Levett and Lewis Laudenslager. The first officers of the company were as follows: James Ash, president; Capt. John Johnson, manager; A. C. Adams, secretary and treasurer; George W. Johnson, assistant bookkeeper, and Lewis Laudenslager, superintendent. These officers have retained their positions ever since.

From time to time the company has sold tugs and built new ones, until at the present time it owns the following: Cascade, Robert H. Hebard, Townsend Davis, Conneaut, W. I. Babcock, Grace L. Danforth, James Byers, and the Erastus Day of Conneaut. The latter is commanded by Capt. Austin Hand, a nephew of Capt. George R. Hand, founder of the line. All of the above tugs, with the exception of the James Byers, are equipped with steam-steering apparatus. In 1895 this company sold the John Johnson to other parties, so that at the present time they own but seven tugs.

In 1893 the Grace L. Danforth, which was built in 1890, in trying to pull the steam barge Curtis off the rocks in Niagara river, was caught broadside in the swift current just above the rapids, tipped over and rolled her boiler out. In repairing her for further service a new boiler was put in; a new frame given her, new planking and a new deck, at a cost of something over \$6,000, so that then she became practically a new tug.

Besides the tugs mentioned above this company owns a rotary steam pump for wrecking purposes, which they purchased in 1893, and which they have used on several occasions. They employ about 33 men and carry on a successful business.

*The Owens Tug Line*, Buffalo, was established by Capt. John Owens several years ago. Captain Owens lived as a boy

upon several canals, driving the teams, working on various boats, and owning numerous boats, on canals in the Eastern Middle States. He went to Buffalo in 1877. On the Erie canal his first boat was the Samuel J. Tilden, his next the Walter O. Callaghan, and his third the Dr. R. V. Pierce. These three boats he afterward sold to other parties, and established a canal tug line in 1883, his first tug being the Lone Star. The next year he bought the George Donaldson, and in 1888 the E. D. Beach, a tug which had been in existence for about thirty years, and which is still in active service. In 1891 he bought the Robert Dunham, which had formerly been a ferry boat between North Tonawanda and Grand Island, and which he sold in 1893 to parties in Saginaw, Mich. Next he bought the Trenton, which came out in 1893. In 1896 he bought the E. E. Frost, which was built in Oswego in 1885, and which came to Buffalo in the spring of 1896. The Frost is his largest tug. The Owens Tug Line now consists of the following tugs: The Lone Star, the Trenton and the E. E. Frost. During the season of navigation they are engaged in towing on the Erie canal, in the harbor of Buffalo, on the foot of Lake Erie and up and down the Niagara river.

*The Maytham Tug Line*, Buffalo, was established in 1871, at which time Thomas, George and E. C. Maytham dissolved partnership with George R. Hand and founded their own line. Thomas Maytham made his first venture in marine business in 1862 when he purchased a one-fourth interest in the tug G. W. Gardner, which he afterwards brought with him to Buffalo, from Cleveland. He made his first purchase of a sailing vessel in 1863, when he became one of the owners of the schooner Nonpareil, a canal vessel of about 300 tons. This vessel started light from Cleveland, where Captain Maytham was then living, for Escanaba for a cargo of ore, the freight on which was to be \$4 per ton. Having taken on board the ore the Nonpareil sailed for Cleveland, but encountering a storm on Lake Huron went down and became a total loss. He next purchased an interest in the Lily Pratt, which was lost some years later

in the Bay of Biscay. Captain Maytham subsequently owned interests in the following schooners: John Breden, which he purchased in 1875, and which is still afloat, engaged in the lumber trade between Buffalo and the upper lakes; American Giant, now a lighter at Windsor, Canada; Queen City, lost in a storm on Lake Michigan in 1894; L. W. Drake, built at Bay City, Mich., in 1881, which is still engaged in the lumber trade; C. O. D., which was lost in 1886; Seaton, lost about the same time; and in the Maxwell, now engaged in the lumber trade.

Captain Maytham was also interested in the following steamers: Araxes, lost on Lake Huron in 1888; Nevada, lost about the same time; Queen of the West, built in Bay City, Mich., in 1881, now engaged in carrying coal and iron ore; Oregon, built in West Bay City, Mich., in 1882, and now engaged in the coal and iron trade; Newburgh, lost in a snow storm on Long Point, Lake Erie, in 1890; Northerner, which was burned on Lake Superior in the fall of 1891; the Gilcher, which was lost on Lake Superior with all hands on board, eighteen in number. She was a sister ship to the Western Reserve, elsewhere mentioned as lost on Lake Superior in 1892; Waverly, still afloat; Mascot, a pleasure boat, lost by fire; R. A. Packer, built in West Bay City, Mich., and sold to the Lehigh Valley Railroad Company; The Periwinkle, formerly the Commodore Perry, built immediately after the close of the Civil war, lately converted into a pleasure boat, and now plying between Toledo and Detroit.

Upon the establishment of the Maytham Tug Line in Buffalo its success was immediate and rapid, and had so increased that in 1891 it was deemed advisable to form an incorporation. This was effected under the laws of New York, the capital of the company at the time being \$35,000. The first officers of the company were as follows: Thomas Maytham, president; E. C. Maytham, superintendent; G. W. Maytham, secretary and treasurer; and E. H. Maytham, assistant superintendent. This line has had phenomenal success in its business, and now employs therein about \$100,000. Its officers at

the present time are: Capt. E. C. Maytham, president; G. W. Maytham, secretary and treasurer; Capt. Charles Maytham, superintendent, and E. C. Maytham, chief engineer.

During its existence this line has had built for it some 35 or 40 tugs, mostly by Grady & Marr, of Buffalo. These tugs have for the most part been sold, and may now be found in nearly every lake port, and also in Boston, New York and Baltimore, on the Atlantic coast. The last tug they have had built is the Acme. In the spring of 1895 they sold the Ingram to parties in Port Huron, and about the same time they sold the Excelsior, which is a larger tug than any now in Buffalo harbor, and which is owned by parties in Toledo, Ohio. The engine of the Excelsior is 24x28 inches in size.

The tugs owned by the Maytham Line at the present time are the following: Fabian, E. C. Maytham, Alpha, the only iron tug in Buffalo, S. W. Gee, O. W. Cheney and Acme. All these tugs have steam-steering apparatus except the Maytham, Alpha and Kelderhouse. All the lake tugs in the harbor of Buffalo, including those belonging to the Hand & Johnson Line as well as those belonging to the Maytham Line, are noted for their seaworthiness.

Besides the above described tugs this company owns an excursion line of steamers, as follows: The Niagara, the Union and the Hope, each of which has a capacity of about 600 passengers. These excursion boats run under the name of the International Line, and ply between Buffalo and Fort Erie.

The Maytham Tug Line also owns the steel steamers Thomas Maytham, Brazil and America; schooner H. W. Sage, which the company purchased as a wreck in 1890 at the straits of Mackinac, raised, repaired and placed in commission; the lighters Niagara and British Lion; and two Worthington wrecking pumps. The company employs 116 men in their various lines of business. Capt. E. H. Maytham also owns an interest in the steel steamer Chili.

*The White Star Tug Line*, Buffalo, was established in 1877 by the following gentlemen, each of whom was interested to a greater or less extent in various tugs pre-

viously: George M. Swan, M. R. Swan, Theodore E. Cowles, J. B. Blake and A. C. Vroman. These gentlemen united their individual interests in a co-partnership, thus forming the present line. At the present time the officers of this line are as follows: George M. Swan, superintendent; Joseph B. Blake, assistant superintendent; and Theodore C. Cowles, secretary and treasurer. The tugs owned at the present time are as follows: Adam Homer, Hudson, W. N. Peckham, F. A. Bird, Albany, Leo Lennox, Bill Morse, H. L. Fairchild, S. M. Sloan, Post Boy, Puritan and Ella B. The company also owns considerable interest in the canal business. Their tugs ply upon the Erie canal, to all points as far eastward as Albany and New York, in the harbor of Buffalo, on Lake Erie and up and down the Niagara river.

This line also has owned ever since their establishment three wrecking pumps and three lighters, which are brought into frequent requisition, and are of great value to the harbor of Buffalo.

*The Vessel Owners Towing Association*, of Chicago, was organized in 1871, nearly all the important owners of sailing craft taking stock in the enterprise. The original tugs composing the line were the Black Ball, Satisfaction, Rebel, James L. Higgie and Willie Brown, all constructed by Mr. Notter, of Buffalo, for the new company. The incorporators of the company were: Capts. James L. Higgie, who became manager; Thomas L. Parker, A. G. Van Shaak, Jesse Spaulding and H. Whitbeck. The tugs at their completion were received at Buffalo and taken to Chicago under the pilotage of Capt. Frank B. Higgie, and began doing a general towing business out of Chicago harbor. The capital stock was \$60,000, and the company declared a dividend each year for fifteen years, sufficiently large to reimburse the original stockholders, and succeeded in correcting the evil owners of vessels complained of. In 1895 the company discontinued business and sold out the tugs.

Many other references to tug lines, some of them extended, appear elsewhere in this history.



## CHAPTER XXVII.

### LUMBER TRAFFIC.

THE EARLY FORESTS—FIRST LUMBERMEN—EARLY LUMBER VESSELS—LAKE LUMBER DISTRICTS—WHEN THE MAXIMUM PRODUCTION WAS REACHED—RAPID DENUDATION—PRESENT SOURCES OF SUPPLY—LUMBER TOWS—VESSELS IN THE LUMBER TRADE—DECLINE IN THE TRADE—RECEIPTS AT THE PRINCIPAL LAKE PORTS—FREIGHT RATES—LUMBER TRADE OF CANADA—PRESERVATION OF CANADIAN FORESTS—EXPORTS TO THE UNITED STATES.

**W**HEN the first settlers appeared on the Great Lakes the shores around them and the entire region to the north, south and west of the St. Lawrence river, Lake Ontario, Lake Erie, Lake Huron and Lake Michigan were covered with a dark, mysterious forest, with what then appeared to be an inexhaustible supply of timber and lumber. This region has since supplied to Canada and the United States an immense amount of both, for great and multifarious purposes. It is probable that eighty-five per cent. of the territory bordering on these four lakes, and also a large portion of that bordering on Lake Superior, was covered by forest trees of many useful kinds. And southwest to the Gulf of Mexico, and also westward along the Ohio river to the western boundary of what is now the Indian Territory, was a forest more magnificent than can be found at the present time outside of tropical regions. The present States of Michigan and Wisconsin were covered with what has since been the most profitable forest area of the country if not of the world. The rapidity with which this immense area has been denuded of its growing timber is one of the most remarkable of the phenomena of the industrial development of the United States.

It would be a matter of extreme difficulty to ascertain who were the first lumbermen in each part of the timber region surrounding the Great Lakes. The lumber business began at least as early as 1830, and lumber and timber were shipped down the lakes from Ohio, Pennsylvania and

Ontario, in sailing vessels that in returning carried immigrants westward with their farming implements, furniture and provisions. In 1834 Harvey Williams, one of the pioneers of Michigan, built the first steam sawmill in the Saginaw valley. The lumber trade of Chicago began about 1830, and soon assumed considerable importance, for the city grew apace, and all branches of trade were developed with the growth of the place. In 1833 David Carver established a lumber yard in Chicago, bringing the sawn lumber across Lake Michigan, and being thus the first importer of lumber into the Chicago market. He owned a schooner named the David Carver, which was probably the first vessel engaged in the lumber trade between St. Joseph (Mich.) and Chicago. In this vessel Mr. Carver brought his first cargo of lumber to Chicago in the summer or fall of 1833. It was a cargo of pine, and in some way got into the Chicago river and unloaded between LaSalle and Wells streets. The lumber was used in the construction of St. Mary's Catholic church, the first edifice of that denomination in Chicago.

For many years following 1837 the lumber firm of Taylor & Spaulding received lumber shipped to them upon a vessel known as the Commerce. The firm bought this vessel from Oliver Newberry, and soon after rebuilt it, changing the name to Hiram Pearson.

About this time Kinzie, Hunter & Co. and Jones, Clarke & Co. were here engaged in the lumber business, employing a fleet of

vessels in the trade. Prior to 1839 vessels loaded with lumber would tie up close to the bank of the river and deposit their cargoes in a promiscuous pile, from which builders would make their purchases, assorting the lumber themselves. One of the vessels engaged in the lumber trade during those early years was the *General Harrison*, a little schooner, which plied between Chicago and points of the lake in Michigan, and brought in considerable quantities of white-wood lumber. This vessel could not get into the river on account of the bar across its mouth, and for this reason her cargoes were unloaded onto boats, scows and rafts, floated southward around the end of the bar, and then headed for deep water in the river.

Later, after the bar was removed, the *General Harrison* sailed up the river with her cargoes, which she brought from St. Joseph. In later years lumber began to be brought down to Chicago from Manitowoc, Wis.; Peshtigo, Wis.; Menominee, Grand Haven, Muskegon, and even from the Saginaw valley, Mich. The first cargo of Saginaw valley lumber which reached Chicago entered that port in 1847 or 1848, and it was also the first cargo of lumber reaching that port that had been cut with a circular saw, attracting much attention on this account.

Among those who owned vessels and were early engaged in the lumber trade on the lakes was George Smith, one of the prominent citizens of Chicago then, whose vessel plied between Chicago and Buffalo.

In 1840 about 50 sail vessels, varying from 50 to 250 tons, were engaged in the fish and lumber trade on the upper lakes. The "lumber trade," in that year, as a newspaper then remarked, meant the carrying of pine plank, etc., from Canada and Green Bay to Chicago and its vicinity; and not the stave trade through the Welland canal, a branch which became very extensive.

Early in the season of 1844 there was a brisk demand for vessels wanted in the lumber trade on the upper lakes. Chicago, Racine and other leading points were improving so fast, and the demand for building material was so great, that good prices

were offered for vessels to trade between Green Bay, Kalamazoo, etc., to the above points. Several crafts were chartered, while not a few old craft were transferred to that region.

*Lake Lumber Districts.*—The Great Lakes lumber region for statistical purposes was long ago divided into districts, as the Georgian Bay district, the Lake Erie district, the Lake Huron district, the Saginaw Valley district, &c. As the lumber began to diminish in quantity from the districts bordering on the Great Lakes, other regions further to the northwestward were opened, and for years the Great Lakes region and the regions of the great Northwest have been classified as follows: The West of Chicago district, the Chicago district, the Railroad and Interior Mills district, the Saginaw district, and the Lake Erie district. The West of Chicago district is subdivided into the Duluth district, and eleven other districts, each traversed by a river or a railway; the Chicago district is subdivided into the Green Bay district, the Cheboygan district, the Manistee district, the Ludington district, the White Lake district, the Muskegon district, the Grand Haven district, and the Miscellaneous Mills district. The Railroad and Interior Mills district comprises the interior portion of the lower peninsula of Michigan. The Saginaw district is subdivided into the Saginaw valley district and the Lake Huron shore.

Without such a division as the above it would be exceedingly difficult to form reliable estimates of the amount of timber standing at any particular epoch, and of the amount of lumber cut and shipped by lake or railroad. About twenty years ago there was considerable excitement and discussion over the question as to how rapidly the timber was being cut away, and as to how long the forest supply would last. It was not difficult to ascertain the amount of the annual cut of timber, and if the amount still standing in the forest could be ascertained with anything like similar closeness of approximation, then it would be but a simple question of division to ascertain the number of years during which the supply would hold out. This was the method pursued by some

very able writers on this question, and in 1876 these writers informed the world that twenty years more of such rapid destruction of timber as had then been going on since the close of the Civil war would pretty much exhaust the supply. For six years after these predictions were made the rate of lumber production steadily increased, reaching a maximum in 1882 in most of the districts into which the Great Lakes region was divided.

In the Saginaw valley, in 1865, there was cut lumber to the amount of 250,639,340 feet, which amount steadily increased with some fluctuations until 1880, when the amount sawn was 862,453,223 feet. In the West of Chicago district in 1873 the cut was 1,353,000,000 feet, while in 1884 it reached 3,448,646,757 feet. In the Chicago district in 1873 there was cut lumber to the amount of 1,220,819,000 feet, the maximum in this district being reached in 1889, when it was 2,481,358,356 feet. In the Railroad and Interior Mills district the cut in 1873 was 621,603,000 feet, and the output or product here remained quite uniform for several years, reaching its maximum in 1882, when it was 922,409,230 feet. In the Saginaw district, which includes the Saginaw valley and the Lake Huron shore, the cut in 1873 was 792,358,000 feet, and here the maximum was reached in 1888, when the product was 1,497,989,140 feet. The Lake Erie district began to be noticed in Chicago statistical tables in 1882, in which year the product was 54,528,380 feet, and in this district the maximum was reached in 1890, when it was 76,250,000 feet. In the Georgian Bay district in 1880 there were cut 505,756,488 feet of lumber, which was a little more than five-sixths as much as was cut in the Muskegon district, the amount here being then 591,201,649 feet.

The maximum product for the different districts was reached in different years. In the West of Chicago district it was reached in 1892; in the Chicago district in 1889; in the Railroad and Interior Mills district in 1882; in the Saginaw district in 1888, and in the Lake Erie district in 1890. The maximum total product of lumber for all

these districts was reached in 1892, when it was 8,902,748,423 feet.

In the West of Chicago district the cut declined from the maximum of 4,688,840,186 feet in 1892, to 3,351,445,913 feet in 1896; in the Chicago district the decline was from the maximum of 2,481,358,356 in 1889, to 1,513,231,561 in 1896; in the Railroad and Interior Mills district the decline was from 922,409,230 feet in 1882, to 387,925,069 feet in 1896; in the Saginaw district the decline was from 1,497,989,140 feet in 1888, to 513,585,298 feet in 1896, and in the Lake Erie district the maximum was reached in 1896, when it was 71,925,107 feet. But in the entire region under discussion the decline in the product was from 8,902,748,423 feet in 1892, to 5,538,112,948 feet in 1896, which was the smallest total output since 1879, when it was only 4,806,943,000 feet.

Thus it will be seen that in all the districts which are wholly or in part connected with the Great Lakes, the product has been for several years gradually diminishing from year to year. But in the districts wholly in the Great Lakes region this decrease is made more evident by taking individual sub-districts. For instance, in the Saginaw Valley district the shipments of lumber decreased from 284,794,922 feet in 1882 to 68,773,117 feet in 1896, while the shingle output decreased from 304,925,590 in 1881 for the entire Saginaw Valley district to 38,180,750 in 1895. At one time Muskegon shipped about 800,000,000 feet per year, while at the present time as a lumber producer it is practically wiped off the map. The same is the case almost, but not quite to the same extent, with the Pere Marquette and the Manistee regions. The Menominee region is on the decline, and Marquette and Ontonagon now furnish little but pickings. And it will not be long before the Saginaw Valley and the Lake Huron shore will be practically dependent on Canada for their lumber. At the present time the Duluth district is the mainstay of the lake shipments, with Chequamegon Bay rapidly declining. The lower Chippewa and the Black river regions are nearly denuded of pine, and the same is true of the St. Croix.



The White Lake, Ludington, Traverse Bay, Cheboygan, Manistique, St. Ignace, Marinette, Ontonagon and Wolf River districts are each either sliding down the scale or have become practically extinct as factors in the lumber market. As just stated, the supply for the Great Lakes lumber trade now comes principally from the Lake Superior region, and operations on the Wisconsin river, the Chippewa and the St. Croix and even on the upper Mississippi river are noticeably diminishing. And one by one the mills which derived their stocks from the territory around the Great Lakes and from the valleys of the streams falling into them, are dropping out, being dismantled or burned down. Such places as Muskegon, Ludington, Manistee, Traverse City, Alpena, Menominee, Marinette, Green Bay, Oshkosh and Escanaba, at the end of from five to ten years to come, will cease to be lumber centers, and the lumber trade of the Great Lakes, so far as they are concerned, may be practically extinct. Alpena, Osceola, Cadillac and Big Rapids are all in the metamorphic state, as will soon be the case with Cheboygan. Old Saginaw and Bay City have got past the change, and are entering on a period of prosperous manufacturing and trade. The handwriting is on the wall for Ashland, Wisconsin, as it was some time since for Escanaba and Ontonagon; but Duluth will be for years a large lumber center, for she has back of her yet immense resources in the forests of the Northwest. But all the cities of the Northwest must, in the course of a few years at most, cease to look to lumber as the main source of their prosperity, and turn their attention to agriculture and manufacturing.

Until within a few years the white and norway supply for Ohio markets largely came from Saginaw valley and Huron shore mills. But those resources are rapidly diminishing, and soon will be gone, except as the supply shall be lengthened out by logs from the north shore of Georgian Bay, in Canada. For five years the Lake Erie markets have increasingly resorted to the Green Bay and Lake Superior mills for lumber, and have also taken some hemlock from

the northern ports of the lower Michigan peninsula. The norway of the Huron shore, which for years was the main dependence for dimension, or bill stuff, as it is called on Lake Erie, has been nearly exhausted. This forces the wholesalers of Toledo, Sandusky and Cleveland to go further up the lakes for bill stuff, and is one of the factors which is causing an increasing stress in the market for that class of product. The fact that Ohio and the further east is increasingly dependent on the Lake Superior country for pine is a reason why the supply will be wiped out sooner than many imagine. The whole distributing field eastward is now mainly dependent on upper Michigan and Lake Superior districts, while only a few years ago the chief supply came from lower Michigan.

The state forestry commission of Wisconsin has taken hold of the matter of reforestation and forest preservation in an energetic and practical way. The pine kings have promised to replant their lands, which have been despoiled, with pine trees a year old. It is estimated that they will cost \$3 per thousand, and that that number is sufficient to cover an acre of land. The lumbermen have agreed to this providing the State will see that the fire law pertaining to forests is strictly enforced.

*Lumber Tows.*—A remarkable feature of lake navigation is the system of towing barges, and, perhaps, the tows are not surpassed on any navigable waters in the world. A tow, extending over one mile in length, 5,480 feet, was in 1872 made up at Buffalo, consisting of the steamer Antelope, Capt. R. Valentine, and eight large lumber barges. The tow navigated Lake Erie during violent weather. After loading over 6,000,000 feet of lumber at the Saginaws the barges were towed back to Buffalo by the same steamer. Considering the violent state of the weather much skill must have been exercised to keep the tow in hand and from breaking up.

*Vessels in the Lumber Trade.*—It is not possible to state the number of vessels engaged in the lumber trade on the lakes for the years that that trade has existed; but this number gradually increased from the beginning of the trade, when there

were but few and all sailing vessels to about 1884 or 1885, when there were nearly 500 steamers and sailing vessels thus engaged, handling probably 8,000 cargoes per year. Of late years sailing vessels have been gradually giving place to steam vessels in this trade, as in most others, because steam is a more reliable motive power than wind, and a steam vessel is able to reach her destination either for lumber or with it, almost on schedule time. A steam vessel can also be much more easily managed during a storm, and can often enter a harbor without a tug. During 1871 there were about 10,000 arrivals of sailing vessels in Chicago to 1,000 arrivals of steam vessels, and it is altogether probable that the vessels bringing in lumber arrived in about the same proportion.

In 1882 the number of cargoes of lumber brought into Chicago in steam vessels was 1,994, and the number brought in in sailing vessels was 5,169. In 1889 the number of cargoes of lumber brought in in steam vessels was 2,168, and the number brought in in sailing vessels was 2,755. In 1896 the number of cargoes brought in in steam vessels was 1,021 and the number in sailing vessels was 1,079. The per cent. of steam vessels to the whole number in 1882 was a little less than 28, while that of sailing vessels was a little more than 72. In 1889 the proportion of cargoes brought in by steam vessels was 44 per cent., and of sailing vessels 56 per cent., while in 1896, the last year for which statistics for the entire year could be obtained, the proportion of cargoes brought in by steam vessels was 48.6 per cent., and of sailing vessels, 51.4 per cent.

Thus it will be seen that as the number of cargoes brought in in steam vessels increases the total number of cargoes decreases, from which it may be inferred that the size of the cargoes increases. In 1882 the average cargo amounted to 262,000 feet; in 1889 it was 294,000 feet, while in 1896 it was 371,000 feet.

Even of steam vessels there have been but few that have carried more than 1,000,-

000 feet of lumber at one cargo. Among these have been the Colin Campbell, which on May 12, 1882, brought into Chicago a cargo of 1,025,000 feet; the Brockway, which brought in a cargo of 1,466,000 feet, three days later, and on the 13th of July of the same year a cargo of 1,400,000 feet. Besides the Colin Campbell, in 1889, the propeller M. F. Butters, the propeller A. D. Hayward, the propeller Frank Woods, each brought in cargoes of more than 1,000,000 feet. In 1896 the propeller Madagascar, the propeller Norwalk, the propeller W. P. Ketchum and the propeller Linden each brought into Chicago cargoes of more than 1,000,000 feet.

Civilization has made and is making great and wonderful changes in the face of nature as well as in the face of man. It has driven the Indian from the east, south and north into the far west and northwest, and it is compelling the lumberman to follow in the footsteps of the Indian, by demanding of him the forests in which the red man made his home. Not many decades hence the great body of the lumbermen will be found in the far northwest and in Alaska, while only a few scattered ones will be engaged in their present occupation where there were many of them a decade ago, in the lumber regions of the Great Lakes.

Dr. George G. Tunell discusses as follows in his "Statistics of Lake Commerce," the lumber traffic:

The decline in the movement of forest products on the Great Lakes is largely due to the destruction of forests of white and norway pine on the shores of the lakes and on the banks of the logging streams flowing into the lakes. The enormous drafts that have been made during half a century upon the once seemingly unlimited supplies of Michigan, Wisconsin and Minnesota have in recent years well nigh exhausted the forests near the lakes and on the banks of the streams capable of floating logs. Stream after stream has sent down its last logs. The mills at Saginaw and other points on the Huron shore of the lower

peninsula of Michigan are now in a large measure supplied with logs rafted from the Georgian Bay district of Ontario. The Kalamazoo, the Grand, the Betsie, and the Bear Rivers of western Michigan have ceased to be logging streams, and the White, Muskegon, and the P  re Marquette will soon join them. The Wolf river, of Wisconsin, that once carried down large quantities of good factory pine, will soon float no logs, and the cut of timber in the Green Bay shore district is on the decline.

With the depletion of the forests of white and norway pine contiguous to the lakes and near the rivers flowing into the lakes, the transportation situation has been radically altered. As the lumbermen have been forced to go farther and farther into the interior, the railroads have found it correspondingly easier to compete with the lake carriers. This has followed because in a great many cases it has not paid to haul the logs to the logging streams flowing into the lakes or to transport them directly to the mill at the lake side. The former plan has also been growing in disfavor for other reasons. Logs in some districts now have considerable value, and a good many are lost in floating them to the mills. Then, too, there may be delays in driving the logs because of ice or a lack of water. Now, as the cost involved in moving the logs from the remote districts to the lake shore is often sufficient to prevent such movement, the logs are sawed at mills located at interior points. From these interior mills the lumber generally goes to market by rail, for the cost of shipping by the combined rail-and-water route with its charges for transshipment is greater than that by the all-rail lines.

Altered methods of doing business at the mills also in part explain the greater rail movement. It is becoming the custom to sort lumber where it is sawed, and it is therefore possible to fill orders of consumers and country dealers directly from the mills. These consignments generally go by rail. Formerly the sorting was done by the wholesalers at the great distributing centers about

the lakes, who bought supplies by the cargo and often made a large portion of their profits by a nice manipulation of the mixed stocks received. This revolution in handling lumber has worked itself out very fully on the Saginaw river, and a description of the change, in the words of E. D. Cowles, will be inserted: "A few years ago the manufacturer, with hardly an exception, sold his product by the cargo, and it was shipped by water to other cities, where the finer manipulation of the stock made business for large capital and armies of mechanics and laborers. Now the manufacturer sorts his stock, and sells it in car lots as wanted by the consumer. In other words, he combines the business of wholesaler with that of the retailer, and this accounts in large measure for the falling off in lake shipments. Local dealers who do not operate manufacturing plants also have established yards and buy lumber at interior points in the State and on this river, sort it up or convert it into box material or plain stock, and ship it out by rail to their consumers."

The extent of the change in the kind of transportation employed in moving the lumber of the Saginaw river to market is made clear by the subjoined table:

YEAR	RAIL	LAKE
	<i>Feet</i>	<i>Feet</i>
1885.....	149,672,900	659,565,000
1886.....	176,500,000	591,013,100
1887.....	261,900,000	486,285,000
1888.....	304,362,500	451,391,000
1889.....	352,500,000	432,130,000
1890.....	401,847,000	409,972,000
1891.....	408,258,000	404,577,000
1892.....	427,490,000	347,866,091
1893.....	369,000,000	173,154,000
1894.....	381,450,000	182,600,000
1895.....	393,527,000	136,120,632
1896.....	280,572,500	68,743,000
1897.....	379,000,000	89,137,511

The lumber manufacturing district of the Saginaw river is a narrow strip of land less than half a mile wide and 18 miles long. Within this area there has been manufactured a larger amount of lumber than in any other district of equal area in the



world. Since 1851, 22,943,072,900 feet of lumber have been cut. The rail shipments for 1897 are estimated. The table was compiled by E. D. Cowles, and is worthy of confidence.

Perhaps the ultimate destination of the lumber has in part changed during the period covered by the table, so that the lake carriers are not in so favorable a position to compete for it as formerly. Upon this point no information is at hand.

In some of the great lumbering districts the mills are now kept running during a large portion of the year on hard wood. The total output of the districts about the Great Lakes is in part maintained in this way. During 1897, 464,380,000 feet of hard-wood lumber were produced.

The change from pine to hard wood is of great significance, for hard-wood logs are so heavy that they do not float, and are therefore generally sawed at interior mills. It has already been pointed out that the lake carriers are at a disadvantage in competing with the railroads from the interior mills, for the local rail rates to the shipping ports are high and the lumber must be transhipped.

Many of the small vessels on the lakes are in the lumber business. They can navigate the rivers that are too shallow for the large vessels. Most of the vessels of the old schooner fleet have been transformed into barges, and are now engaged in the lumber traffic. Towing originated in the lumber trade. John S. Noyes, of Buffalo, was the pioneer who made this important departure. When the railroads were pushed westward to the principal lake ports, in the early fifties, the fine passenger and general cargo steamers that were then numerous upon the lakes lost a profitable business. In 1861, Mr. Noyes transformed two of these ships, which had long been idle, into barges. These vessels were the *Empire* and the *Sultana*. In 1862, he changed another vessel (the *St. Lawrence*) into a barge. These barges were towed by the tug *Reindeer*. Mr. Noyes' venture proving successful, towing increased rapidly, and about 1870 another

important innovation was made; the tugs were supplanted by a propeller, which also carried a cargo.

It has already been stated that the movement of lumber on the lakes has been declining. Before many years it may be expected to fall off rapidly. Pine must continue to be, as it has been in the past, the main reliance of the vessel owners. The supplies that can be drawn upon are about as follows.

White and norway pine:	Feet.
Lower peninsula of Michigan.....	3,000,000,000
Upper peninsula of Michigan.....	4,000,000,000
Wisconsin.....	10,000,000,000
Minnesota.....	12,000,000,000
Province of Ontario.....	19,404,000,000

Mr. Andrews, chief fire warden of Minnesota, estimates that there are 20,266,475,000 feet of pine still standing in Minnesota, and others have raised his estimate. The authorities also differ on the amount of standing timber in Wisconsin and Michigan, but their estimates do not vary so widely as in the case of Minnesota. This is to be expected, for the resources of Michigan and Wisconsin are well known, while those of Minnesota are comparatively unknown.

As the output of pine lumber from logs cut in Michigan, Wisconsin and Minnesota during 1897 was nearly 6,000,000,000 feet, and in prosperous years has exceeded 8,000,000,000, it will readily be seen that the timber resources of these States will soon be exhausted. With the depletion of the timber supplies of Michigan, Wisconsin, Minnesota, and the Province of Ontario, the movement of lumber on the lakes will lose its present importance.

In addition to the pine, there is a vast amount of hemlock and hard wood standing in Michigan and Wisconsin, and a limited quantity in Minnesota. A portion of the lumber sawed from this timber will be carried to market by water.

A prediction as to the inroads that will be made into this supply during five years of active demand has been ventured by the *Northwestern Lumberman*, and is here inserted: "The pine of lower Michigan and

the upper peninsula of that State will be well nigh gone [in five years]. A few of the old-mill concerns at Menominee-Marquette will still be sawing pine, but the majority will either have dismantled their mills or will be keeping them alive by cutting hemlock and the hard woods and working up cedar for shingles. The mills at the lesser points will not be cutting pine five years from now. Pine production will have been driven back to the west end of Lake Superior and into northern Minnesota. The red oak of Wisconsin will have been about cleared out. Scattering mills throughout the northern country from the Mississippi to the Soo will be pounding away on maple, elm, bass wood, hemlock, etc., with such overlooked groups of pine as may be encountered in scraping the land of timber. \* \* \* Five years of prosperity, with the enormous demand which will result, will cause such a melting away of the northern forest resources as can scarcely be realized."

This picture may be somewhat overdrawn; but if the predictions made be verified forest products, which rank second among the commodities received at the lake ports during the last census year, will fall out of the first rank and be classed with the minor commodities five years hence.

What may be hoped for from attempts to reforest the pine lands can not be answered satisfactorily, for on this point the authorities differ. Some hold that pine does not grow at once upon land from which pine has just been removed, and some admit that pine will grow, but that the first growths will be low, scraggy, and full of knots, and therefore unfit for the manufacture of lumber. Other authorities insist that good pine can at once be reproduced if (1) forest fires are prevented and (2) the young sprouts be preserved from the depredations of live stock.

#### RECEIPTS AT THE PRINCIPAL LAKE PORTS.

*The Chicago receipts* of lumber by lake and rail since 1858, as compiled by the Chicago Board of Trade, have been as follows:

	RECEIPTS BY LAKE	RECEIPTS BY RAIL	TOTAL RECEIPTS
	<i>M feet</i>	<i>M feet</i>	<i>M feet</i>
1859.....	299,301		299,301
1860.....	254,499	7,995	262,494
1861.....	235,668	13,640	249,308
1862.....	295,270	10,404	305,674
1863.....	392,800	20,501	413,301
1864.....	480,165	21,427	501,592
1865.....	614,020	33,125	647,145
1866.....	687,851	42,206	730,057
1867.....	830,035	52,626	882,661
1868.....	965,860	62,634	1,028,494
1869.....	967,897	29,839	997,736
1870.....	979,759	39,239	1,018,998
1871.....	984,758	54,570	1,039,328
1872.....	1,017,319	166,340	1,183,659
1873.....	1,020,638	102,730	1,123,368
1874.....	993,751	66,337	1,060,088
1875.....	1,080,599	66,594	1,147,193
1876.....	971,416	68,369	1,039,785
1877.....	1,002,501	63,951	1,066,452
1878.....	1,093,088	87,498	1,180,586
1879.....	1,351,149	118,729	1,469,878
1880.....	1,419,974	141,805	1,561,779
1881.....	1,637,823	221,099	1,858,922
1882.....	1,872,976	244,569	2,117,545
1883.....	1,685,719	224,191	1,909,910
1884.....	1,610,166	212,149	1,822,315
1885.....	1,504,186	240,706	1,744,892
1886.....	1,427,795	315,189	1,742,984
1887.....	1,457,173	422,995	1,880,168
1888.....	1,626,408	440,519	2,066,927
1889.....	1,447,399	462,044	1,909,443
1890.....	1,359,921	581,471	1,941,392
1891.....	1,359,315	686,103	2,045,418
1892.....	1,443,769	760,105	2,203,874
1893.....	955,280	645,397	1,600,677
1894.....	1,075,763	486,764	1,562,527
1895.....	1,073,847	564,283	1,638,130
1896.....	779,292	507,351	1,286,643
1897.....	917,212	489,368	1,406,580

*The Milwaukee Receipts* for the same period, as shown by the Milwaukee Chamber of Commerce statements, are as follows:

	BY LAKE	BY RAIL	TOTAL
	<i>M feet</i>	<i>M feet</i>	<i>M feet</i>
1860.....	30,124		31,897
1861.....	56,554		56,554
1862.....	38,858		38,858
1863.....	29,195	963	30,158
1864.....	34,236	1,312	35,548
1865.....	33,372	8,684	42,056
1866.....	48,612	10,287	58,899
1867.....	64,804	22,595	87,399
1868.....			94,023
1869.....			72,383
1870.....			79,491
1871.....			85,892
1872.....			91,303

	BY LAKE	BY RAIL	TOTAL
	<i>M feet</i>	<i>M feet</i>	<i>M feet</i>
1873.....	128,368	7,649	136,017
1874.....	123,645	17,815	141,460
1875.....	106,067	26,309	132,376
1876.....	113,822	31,188	145,010
1877.....	118,675	23,208	141,883
1878.....	118,096	14,894	132,990
1879.....	156,125	24,597	180,722
1880.....	132,614	57,824	190,438
1881.....	135,590	81,450	217,040
1882.....	171,674	86,147	257,821
1883.....	145,807	79,661	225,468
1884.....	135,921	94,241	230,162
1885.....	149,156	89,101	238,257
1886.....	131,787	113,768	245,555
1887.....	151,751	147,368	299,119
1888.....	173,665	139,169	312,834
1889.....	148,201	161,509	309,710
1890.....	140,273	236,957	377,230
1891.....	176,184	184,942	361,126
1892.....	192,448	206,659	399,107
1893.....	167,360	137,976	305,336
1894.....	144,858	41,726	186,584
1895.....	145,809	51,773	197,582
1896.....	119,025	44,477	163,502
1897.....	150,332	39,045	189,377

The receipts of lumber at the more important Lake Erie ports for a series of years are presented below.

*The Buffalo receipts* by lake and rail have thus been compiled by Knowlton Mixer, secretary of the Buffalo Lumber Exchange:

	BY LAKE	BY RAIL	TOTAL
	<i>M Feet</i>	<i>M Feet</i>	<i>M Feet</i>
1876.....	119,146		
1877.....	141,572		
1878.....	176,312		
1879.....	202,443		
1880.....	214,169		
1881.....	240,802		
1882.....	248,196		
1883.....	233,433		
1884.....	248,196		
1885.....	240,637		
1886.....	279,493		
1887.....	264,612		
1888.....	279,493		
1889.....	242,525		
1890.....	287,334		
1891.....	262,729		
1892.....	298,980	636,344	935,324
1893.....	286,751	587,482	874,233
1894.....	239,525	410,000	649,525
1895.....	231,257	398,448	629,705
1896.....	201,277	409,095	610,372
1897.....	221,302	426,870	648,172

*Receipts at Tonawanda* by lake were as follows:

	M FEET		M FEET
1887.....	501,536	1892.....	498,000
1888.....	569,522	1893.....	430,248
1889.....	676,017	1894.....	406,907
1890.....	717,650	1895.....	421,372
1891.....	505,512	1896.....	469,246

*Cleveland Lumber Receipts.*—The imperfect details of this traffic at Cleveland from statistics accessible since 1865 are as follows:

	BY LAKE	BY LAKE	TOTAL
	<i>M Feet</i>	<i>M Feet</i>	<i>M Feet</i>
1865.....			83,038
1866.....			120,911
1867.....			142,445
1868.....			158,220
1869.....			180,000
1870.....	158,866		173,866
1871.....	220,584		
1872.....	191,079		
1873.....	192,448		
1874.....	167,768		
1875.....	140,980		
1876.....	102,609		
1877.....	154,144		
1878.....	119,817		
1879.....	208,393		
1880.....	231,263		
1881.....	321,130		
1882.....	317,810		
1883.....	350,696		
1884.....	329,791		
1885.....			
1886.....			
1887.....			
1888.....			
1889.....			
1890.....	495,984		
1891.....	564,222		
1892.....	714,476		
1893.....	210,636		
1894.....	247,078	130,545	377,623
1895.....	351,883	153,750	505,633
1896.....	244,765	187,275	432,040
1897.....	229,971	174,225	404,196

*Toledo has received* by lake, from 1880 to 1897, inclusive, lumber as follows, as shown by the reports of the Toledo Produce Exchange:



	M FEET		M FEET
1880.....	197,011	1889.....	168,000
1881.....	225,350	1890.....	192,000
1882.....	218,000	1891.....	178,000
1883.....	224,000	1892.....	173,000
1884.....	216,000	1893.....	156,000
1885.....	230,000	1894.....	144,000
1886.....	160,000	1895.....	159,000
1887.....	182,000	1896.....	127,000
1888.....	335,000	1897.....	122,000

The freight rates on lumber per 1,000 feet by lake from the ports named to Chicago have been compiled as follows from the weekly rates published by the *North-western Lumberman*:

	ALPENA	MANISTEE	MENOMINEE	ASHLAND
1877.....	\$1 31	\$1 27	.....	.....
1878.....	1 14	1 34	\$1 46	.....
1879.....	.....	1 77	1 87	.....
1880.....	2 22	2 12	2 27	.....
1881.....	.....	2 18	2 17	.....
1882.....	1 92	1 78	1 80	.....
1883.....	2 01	1 85	1 85	.....
1884.....	1 74	1 70	1 59	.....
1885.....	1 64	1 46	1 54	.....
1886.....	1 89	1 58	1 66	\$2 12
1887.....	2 53	1 94	2 11	3 15
1888.....	1 90	1 49	1 57	2 73
1889.....	1 59	1 42	1 40	2 42
1890.....	1 74	1 58	1 66	2 51
1891.....	1 69	1 59	1 59	2 44
1892.....	1 81	1 62	1 67	2 91
1893.....	1 61	1 46	1 48	2 36
1894.....	1 41	1 32	1 33	2 00
1895.....	1 36	1 22	1 27	2 18
1896.....	1 16	1 14	1 20	1 85
1897.....	1 18	1 13	1 10	1 67

The rates from Duluth, Superior and the other ports at the head of Lake Superior are almost always the same as those from Ashland.

#### LUMBER INTERESTS OF CANADA.

The policy of Canada, from the time of the organization of the present Dominion Government, has been directed toward the preservation of the forests, its method of procedure being to treat timber as a crop to be harvested when ripe, instead of before maturity or of being suffered to advance to over-maturity and decay.

Running from east to west across the Province there is an elevated region which is shown on the maps and generally spoken of as the "Height of Land," which forms the watershed between the St. Lawrence system and Hudson Bay. The principal variety of timber along this ridge is the white pine, the greatest of the timber trees of Canada. Northward is a vast forest of valuable timber extending around Hudson Bay and away to the arctic circle. This great extent of land, like that along the ridge, or "Height of Land," is for the most part unfitted for agriculture, but it is well fitted for the growth of successive crops of the variety of timber with which it is now covered, and is the principal source of the supplies for the manufacture of paper for the years to come. In order to protect this great source of wealth from wanton and accidental destruction it is only necessary to guard against fires, and to dispose of the timber as it matures; the principal requisite being to protect the cleared portions against being swept by forest fires, nature being abundantly competent and willing to do the rest.

With proper government supervision this great source of wealth will continue for generations, if not for centuries, to provide for the necessities of mankind, as well as to furnish a very large revenue to the government, a portion of whose policy consists in setting aside from settlement, as a permanent reserve, a portion of the Crown lands. "The Algonquin National Park" is a noted example of this kind, which comprises an area of 1,733 square miles, 150 miles from Toronto in a direct line, on the watershed which separates the streams flowing into the Ottawa river on the east and those flowing into Georgian Bay on the west.

It can not be stated how much timbered land still belongs to the Crown in Ontario, but according to a return made to the House, in 1893, there were about 21,000 square miles of pine lands under license and 24,410 square miles of pine lands still unsold, besides about 89,000 square miles of land more or less timbered, much of it well timbered, with a variety of trees, pine and spruce and other woods. According to the

report of the commissioner of Crown lands, for 1894, the amount of timber of all kinds cut on the Crown lands for lumbering purposes was 60,695,250 feet for that year; and it was also stated that the natural increment of growth, taking the estimate of the United States forestry bureau (60 cubic feet per acre per year), as a correct basis for calculation, was about five times this amount, so that there was no danger to the timber reserve so long as the cut was not largely increased.

The white pine pervades the valleys of the Ottawa river and its tributaries, the valley of the Trent and the streams running into the Georgian Bay and Lake Huron, though in all these valleys it has been greatly diminished by lumbering and forest fires. The spruce abounds in Ontario, and its use is growing, especially in the manufacture of wood pulp, largely for export, and great inroads are being made upon it. The same remark applies to the hemlock, which like the tamarack, cedar and balsam fir, is plentiful and much used locally.

Of the hardwoods those of greatest commercial importance are the oak, elm, maple, beech, birch, butternut, hickory, cherry, but much of the hardwood forest has been cleared and used. The black walnut, white-wood, the buttonwood, the chestnut, the coffee tree, and some of the hickories, have become almost extinct.

George Johnson, in "The Forest Wealth of Canada," published in 1895, says: "The value of forest products consumed per capita may be estimated approximately. The value of our forest products, calculated from the census returns of 1891, was \$80,071,415. For the fiscal year 1890-91 our imports of wooden articles amounted to \$3,132,516, while for the same year our exports were \$27,207,547, leaving for consumption in Canada \$55,996,384, or a value of \$15.59 per head. With respect to the quantities used the census returns show an aggregate of 2,045,073,072 cubic feet as the total cut for the year, of which 30 per cent. was exported, leaving 1,431,551,150 cubic feet for the annual home consumption. This is equal to 296.2 cubic feet per head of the population. B. E. Fernow, chief of the

forestry division of the United States department of agriculture, estimates that the per capita consumption in the United States is 350 cubic feet annually.

There was originally in Canada one unbroken forest from Nova Scotia to the Lake of the Woods, a distance of 2,000 miles, covering an area of 315,000,000 acres. Through this great forest there ran the rivers Miramichi, St. John and the St. Lawrence, with its chain of Great Lakes, and its and their tributaries, the Saguenay, the St. Maurice, the Ottawa and others, and for 250 years, or ever since the settlement of Montreal in 1642, the axe, torch, the accidental fire have been making havoc in this vast region. It is probable that 50,000,000 acres have been in these several ways cleared of their timber, which has for the most part been wasted. And while the remainder is for the greater part under forest, it has been "deviled" by the lumbermen in search of merchantable timber; and besides this, there was at one time a great fire in the Miramichi valley, which swept with the fiercest energy over an area of more than 3,000,000 acres, leaving behind it blackened giant pines as a reminder of its destructive power for more than half a century; so that throughout the 260,000,000 acres not occupied by the settler, much has been thinned out. And after allowing for the areas occupied by the lakes and streams, there is probably 150,000,000 acres of timbered land, or about 45 per cent of the area of the Eastern Provinces still under forest.

With reference to the amount of pine territory in Canada, the Hon. James Skead, of Ottawa, estimates the total area north of the St. Lawrence and east of the Nepigon river as 311,711 square miles, or thereabouts. He divides the entire area in square miles as follows: 1. The Saguenay district, 27,000; 2. The City of Quebec, 8,000; 3. The St. Maurice, 21,000; 4. The Bout de l'Isle, 9,600; 5. The Valley of the Ottawa, 87,761; 6. The Rideau river, 2,350; 7. The Trent river, 6,200; 8. The Georgian Bay, 12,800; 9. The French and Pigeon river, 48,000; 10. The Saguenay and Blanc Sablon, 65,000; 11. The Ontario peninsula, 24,000.

No. 1 is rich in white and red pine, spruce, birch and tamarack; No. 2 in white and red pine, birch, white cedar, spruce and tamarack; No. 3 contains large quantities of white, red and yellow pine, spruce, birch, maple, elm, ash and tamarack; No. 4 possesses a good deal of white, red and yellow pine, spruce, tamarack and some ash; No. 5 "is the principal seat of the lumber industry, and has been since 1806, when the first raft left the mouth of the Gatineau"; it possesses white and red pine, both of the largest and best on the continent, also tamarack, spruce, ash, white oak, elm, birch, and all varieties of maple; No. 6 furnishes white pine; No. 7 contains white and red pine, ash, oak, birch, and tamarack; No. 8 supplies a choice quality of white and red pine, some oak, elm, maple and birch; No. 9 furnishes white pine of small size but of good quality; No. 10 furnishes a large quantity of timber fit for shipbuilding, and a quantity of birch, maple, oak, ash and elm, and No. 11 produces all the varieties of the hardwoods, such as oak, elm, black walnut, all the kinds of maple, chestnut, hickory, sycamore, basswood and ash.

Following are values of the exports of forest products from the Province of Ontario and the Province of Quebec to the United States for 1867 and 1868, and for the Province of Ontario alone since that date. It is assumed that most of the lumber exported from Ontario was exported by means of the Great Lakes, and the tables in the government reports, from which these statistics were compiled, show plainly that the great proportion of the forest products exported from Ontario was to the United States. Hence it is that the placing of a tariff (by the Dingley tariff bill) of \$2 per thousand feet on lumber imported into the United States created a great sensation among Canadian lumbermen: For 1867, \$13,948,048; 1868, \$14,471,697; 1869, \$4,484,679; 1870, \$5,115,157; 1871, \$6,107,733; 1872, \$6,109,642; 1873, \$8,889,468; 1874, \$7,322,611; 1875, \$4,472,720; 1876, \$3,657,410; 1877, \$3,439,143; 1878, \$3,496,311; 1879, \$3,253,734; 1880, \$5,033,975; 1881, \$6,572,315; 1882, \$8,009,934; 1883, \$7,821,885; 1884, \$7,595,049;

1885, \$7,336,387; 1886, \$6,481,298; 1887, \$7,002,762; 1888, \$7,560,814; 1889, \$8,396,799; 1890, \$7,821,387; 1891, \$8,954,582; 1892, \$8,254,857; 1893, \$9,861,890; 1894, \$9,312,702; 1895, \$7,872,920.

During the latter year the grand total of value of the exports of the products of the forests of Ontario to all countries was \$7,927,235, as against \$7,872,920 exported to the United States, and the same proportion or nearly that held good for the entire period covered by the above statistics. In 1870 there were exported in pine logs 18,034,000 feet, valued at \$85,022.

The following are the exports of the products of the forest from Ontario to the United States for 1895, showing the details of the traffic: Logs, oak, 199,000 feet, value, \$3,737; pine, 211,745,000 feet, value, \$1,859,369; all other logs, 3,683,000 feet, value, \$24,044; laths, number, 76,272,000, value, \$109,320; lumber palings, 29,000, value, \$469; pickets, 3,848,000, value, \$18,763; planks and boards, 331,977,000 feet, value, \$4,154,032; scantling, 148,000, value, \$3,204; staves, 44,000, value, \$370; other lumber, 621,675,000 feet, value, \$999,787; all other forms of lumber, value, \$103,366; hop poles, value, \$2,058; hoop poles, \$140; telegraph poles, value, \$6,798; other poles, value, \$8; cedar and tamarack poles, value, \$65,739; shingles, value, \$152,062; sleepers and railroad ties, value, \$27,340; stave bolts, value, \$64,232; shooks, value, \$3,190; square timber, value, \$182; wood for pulp, value, \$203,666; other articles, value, \$71,044; total value, \$7,872,920.

The quantity of timber, in the shape of logs, exported to the United States from Canada, has been more or less affected by the export duty imposed by the Dominion Government from time to time, that export duty having been imposed for the two purposes of limiting the amount of timber cut in the forests and of affecting tariff legislation in the United States. The Trade and Navigation returns show that from 1884 to 1893, inclusive of both years, logs were exported from Canada to the following extent: During the fiscal year ending June 30, 1884, 974,000 feet; 1885, 380,000 feet;



1886, 2,869,000 feet; 1887, 6,350,000 feet; 1888, 468,000 feet; 1889, 10,839,000 feet; 1890, 32,144,000 feet; 1891, 36,699,000 feet; 1892, 73,963,000 feet; 1893, 127,084,000 feet.

According to the Ontario Crown Lands reports for 1893 there were exported to the United States logs of all kinds to the amount of 210,682,802 feet, of the cut of that year. Of the cut of the previous year there were exported 24,250,000 feet, and from Indian reserves about 10,000,000 feet, making a total for the calendar year, 1893, of 244,932,802 feet, exclusive of that cut on and exported from private property.

On the eastern coast of the State of Michigan there are many important centers of the milling industry, many of them situated on Saginaw bay, just across Lake Huron from Georgian Bay, and thus within convenient distance of the forests of the Georgian Bay lumbering district, especially for rafting purposes. Those interested in

the sawmill industry in the State of Michigan, at Saginaw City, Tawas City, and other places, purchase timber limits in the Georgian Bay region, and cut and raft the logs across Lake Huron to the Michigan side, and it is interesting to note the comparative dependence of the Michigan lumbermen upon the Georgian Bay region for their logs. According to the best statistics available Saginaw City and Tawas City in 1892 required a total of 793,184,159 feet of such logs. They were obtained from Michigan and from Georgian Bay, as follows: From streams in Michigan, 234,114,329 feet; from upper lake points in Michigan, 63,500,000 feet; hauled in by railways, 311,069,830 feet, a total from the American side of 608,684,159 feet, leaving only 184,500,000 feet to come from the Georgian Bay region, about one-fourth of what was required. These logs are made up into rafts and towed across Lake Huron to the mills of Michigan.

## CHAPTER XXVIII.

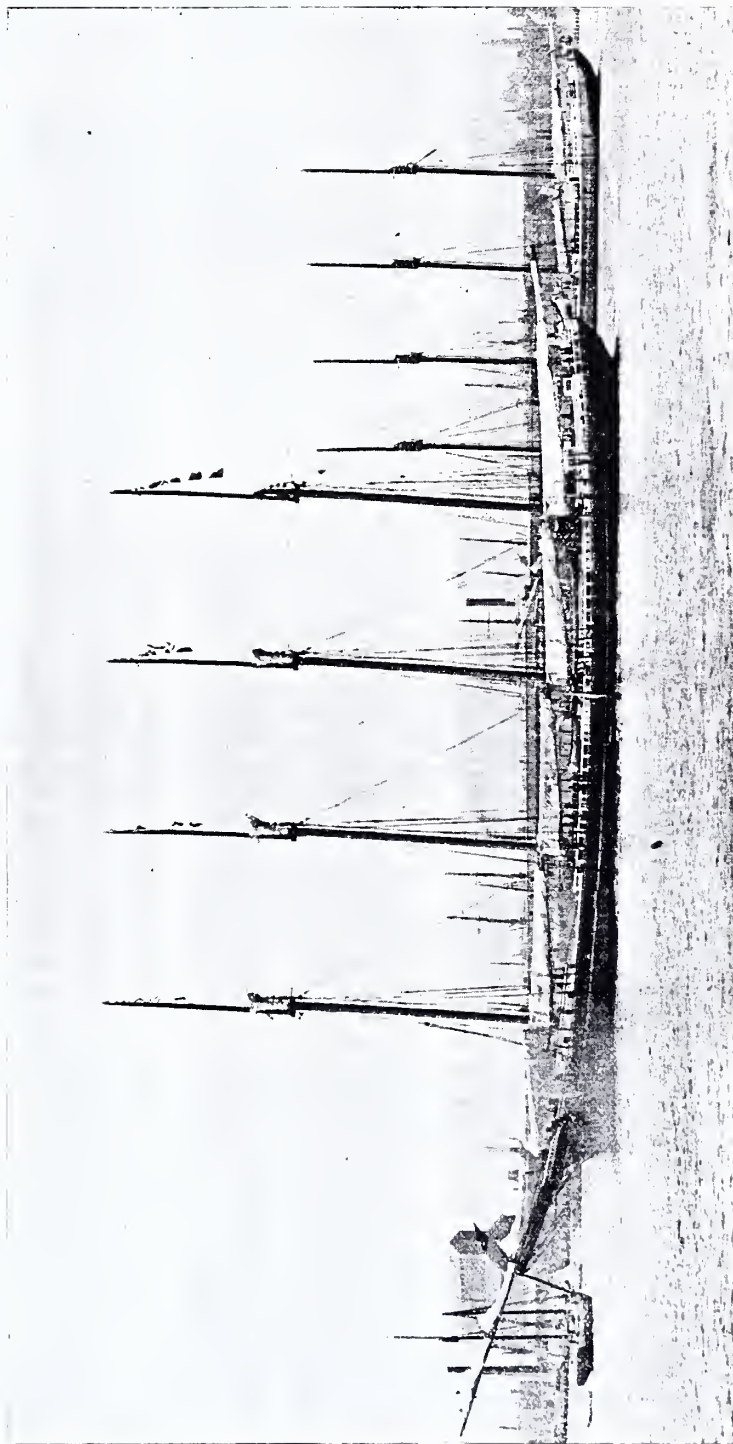
### GRAIN TRAFFIC.

EARLIEST GRAIN TRAFFIC WESTWARD—ERIE CANAL CHANGES THE CURRENT—FIRST SHIPMENTS FROM LAKE MICHIGAN—HOW EARLY CARGOES WERE HANDLED—FIRST GRAIN ELEVATOR AT CHICAGO—GROWTH OF THE TRADE—RAILWAY COMPETITION—SHIPMENTS FROM CHICAGO—SHIPMENTS FROM MILWAUKEE—THE GRAIN BELT—FREIGHT RATES—GRAIN COMMERCE AT BUFFALO—A CANADIAN GRAIN ROUTE—GRAIN ELEVATORS AT DULUTH, ETC.—AT CHICAGO—AT BUFFALO—AT ERIE AND ELSEWHERE.

**I**N point of tonnage the grain traffic on the Great Lakes for the year 1897 exceeded all previous records. In round numbers, it may be stated that fully 20 per cent. of the entire lake trade is included in the cereals, which are transported from the fertile and almost boundless grain fields of the Northwest to the crowded marts of the Atlantic seacoast and of Europe.

The earliest grain traffic on the Great Lakes was westward. In the early decades of the present century the west-bound emi-

gration crowded so swiftly upon the heels of time that sustenance, save that afforded by the wilderness, was insufficient. It was not long after the completion of the Erie canal that an east-bound traffic in grain set in, which finally encompassed the entire lake region. The Erie canal grain trade, at first, originated on the banks of the canal. In 1835 all the grain arriving at Buffalo came from Ohio ports and amounted to 112,000 bushels. From that date, as shown by the statistics published on an-



THE OLDER TYPE OF SCHOONERS, GRAIN CARRIERS





other page, the grain trade of Buffalo grew steadily.

*First Shipments from Lake Michigan.*—The first shipment of grain from Lake Michigan was made in 1836. In that year 3,000 bushels of wheat were shipped from Grand river, Michigan, on the brig John Kenzie, owned by Dorr & Jones, of Detroit, and commanded by Capt. R. C. Bristol. This cargo arrived at Buffalo.

In 1838, the steamer Great Western carried from Chicago to Buffalo 39 bags of wheat, which were consigned to parties in Otsego county, N. Y. This was the first grain shipped from Chicago. In October, 1839, the brig Osceola carried down from Chicago to Kingman & Durfee, of Black Rock, 1,678 bushels of wheat, this being the first shipment of grain in bulk from that port. In 1840 a small schooner named the General Harrison, of about 100 tons, was loaded at Chicago with 3,000 bushels of wheat for Buffalo. The same year the schooner Gazelle carried from Chicago to Buffalo 3,000 bushels of wheat; the brig Erie, 2,000 bushels; and the schooners Major Oliver and Illinois, each a small cargo. From that time, down to the opening of the Illinois and Michigan canal in 1848, shipments of grain from Chicago advanced but slowly, though in 1844 Charles Walker, of Chicago, had at one time five vessels, all loaded with wheat, afloat at the same time between Chicago and Buffalo. This was considered business of great magnitude. In October and November, 1856, there were frequently reported to be as much as 650,000 bushels of wheat afloat at the same time from Chicago to Buffalo. In July of that year there were reported to be 650,000 bushels of corn afloat at one time, all from Lake Michigan ports. Most of the grain shipped from the upper lakes for Buffalo, up to 1848, was wheat, but in the latter year corn began to be carried down in large quantities.

*How Early Cargoes Were Handled.*—In 1825, and for many subsequent years, all the grain cargoes were handled in buckets, and from three days to a week were consumed in discharging a single

cargo, during which time the vessel would, on an average, lose one or two fair winds.

The improvements in the way of handling grain up to this period, over the old way, by buckets, was an increase of elevators at all the principal ports of shipment. The first of these important inventions on the lakes was constructed at Buffalo by Joseph Dart during the winter of 1842-43. It was located on the north side of Buffalo creek, and was burned in 1862. The first vessel which unloaded there was the schooner Philadelphia, Capt. Charles Rogers, a vessel of about 123 tons burden, and having on board 4,515 bushels of wheat consigned to Kinney & Davis. The first cargo of corn was discharged there by the schooner South America, Capt. A. Bradley, which had on board a trifle over 3,145 bushels; the schooners H. M. Kinne, Capt. M. Capron, and Wm. Brewster, Captain Wood, arrived and discharged soon after. Beside these there were 70 others, consisting of barks, brigs and schooners, which discharged at the same elevator during the first season.

*The first grain elevator at Chicago* was built by Newberry & Dole in 1839. It was located at the north end of Rush street bridge. The wheat was brought from farmers' wagons, and hoisted to an upper story by old-style pulley blocks and rope, by hand power. The problem of loading grain from this elevator to the big Osceola, in 1839, was solved by fixing a spout in one of the upper doors, and making it gradually narrower till it reached the deck, where the wheat was discharged into boxes holding four bushels, weighed and transferred to the hold of the vessel. From the bins holding the wheat in the upper story a row of men was formed to the spout and the wheat was passed in buckets. The same firm soon after built another elevator, and horse power succeeded man power, a bucket-belt being used to elevate the grain. Improvements rapidly followed, and in 1848 Capt. R. C. Bristol erected the first steam elevator. In 1857 there were twelve elevators in Chicago, with a combined storage capacity of 4,095,000 bushels, but in 1855 the whole storage capacity in the city, it was

estimated, did not exceed 750,000 bushels. The storage capacity of the twenty-one Chicago elevators, in 1897, was 32,150,000 bushels.

Chicago early acquired the ascendancy in the exportation of grain. A writer, in 1860, thus compares the trade of Chicago with that of the chief European grain-shipping ports: "When we say that Chicago exports thirty millions of bushels of grain, and is the largest market in the world, many persons doubtless believe that these are merely Western figures of speech, and not figures of arithmetic. Let us, then, compare the exports of those European cities, which have confessedly the largest grain trade, with those of Chicago:

1854.	Bushels of Grain.
Odessa, on the Black Sea.....	7,040,000
Galatz and Brailow, on the Black Sea.....	8,320,000
Dantzic, on the Baltic.....	4,408,000
Riga, do.....	4,000,000
St. Petersburg, Gulf of Finland.....	7,200,000
Archangel, on the White Sea.....	9,528,000
	40,496,000
Chicago, 1860.....	30,000,000

or three-quarters of the amount of grain shipped by the seven largest markets in Europe; and if we add to the shipments of those European cities by ten to twenty millions of bushels, will any one doubt that the granary of the world is in the Mississippi Valley."

*Railway Competition.*—The advent of the railroads made quite a difference in the transportation of the early grain crops of the West. In his recent report to the Treasury Department on Lake Commerce, Dr. George G. Tunnell says: "In the early sixties the railroad began to make serious inroads into the flour traffic from Chicago, and during the eighth decade secured the lion's share of this business. Flour was the first heavy commodity of comparatively low value that the railroad carried in competition with the water lines. The railroads gained this traffic partly because shipment by lake to points not accessible to lake craft involved a transshipment, and flour could not be transferred with the same ease and facility that grain could be transhipped; partly because expeditious delivery is fre-

quently demanded, the element of time being of much greater importance in the movement of flour than that of grain, and, finally, because flour cannot be stored without considerable loss, so it would not be held during the winter for the opening of navigation to so large an extent as grain. To these causes may be added a fourth—the cost of marine insurance. From the opening of the seventh decade the railroads rapidly monopolized the business, and continued to do so until the year 1886. Since 1885 the relative importance of the rail lines has diminished. In 1885 they carried almost seven-eighths of the flour shipped eastward from Chicago, while in 1896 they carried but a little more than three-fifths.

"In the spring of 1872 the railroads entered the field for a part of the grain traffic, and secured a liberal portion of it throughout the season of navigation. In the following year the struggle was continued, the railroads securing a large share of the business. Since 1873 the contest has been maintained. In some years the railroads have made great encroachments into the traffic, and in other years the lake carriers have almost monopolized the business. Shipments by rail exceeded those by lake in 1881, and again in 1885. Since the latter year the lakes have more than held their own, and in some years have captured nearly all the wheat.

In the years previous to 1873, with some exceptions, most of the wheat taken from Chicago by the railroads was secured in the winter months, when lake navigation was closed. Since 1873 the largest rail shipments have often been made after the navigation season had fully opened.

In a general way it may be said that the corn traffic has followed the same course as the wheat traffic. The railroads appear, however, to have secured a considerable share of this business at an even earlier time than they obtained a large part of the wheat traffic. During the years 1868, 1869 and 1870 the railroads carried considerable quantities of corn, and then for five years transported but little of this commodity. In the movement of this important crop the year 1876 was the decisive turning

point. The crop of corn grown in 1875 was large and of good quality, and the export demand was steady and strong, so the grain was moved rapidly forward by rail. Throughout 1876 the rail routes competed vigorously with the lake lines and obtained a large share of the traffic. During the months of May and June 6,208,706 bushels of corn were shipped from Chicago by lake, and 5,588,830 bushels by rail. The amount of corn carried by rail during the year 1884 was almost equal to that transported by lake. During the following year the shipments by rail again almost equaled those by lake, the amounts being, respectively, 28,682,864 and 29,382,591 bushels. Since 1885 the lakes have regained much of the east-bound traffic lost in the earlier years. In 1896 they carried more than six times as much corn as the railroads.

The statistics of the movement of oats show that the railroads carry a larger proportion of this than of other grains. This is surprising, for oats is a commodity of comparatively low value and large bulk, and it is generally held that this class of goods is best adapted to water transportation. The explanations of the larger rail movements of oats are not far to seek; one of them, however, runs counter to long-established opinion. Oats take up moisture more readily than other grains, and as a very small amount will cause oats to become musty and thus unfit for horse feed, it is sometimes found advantageous to ship this grain by rail. But there is another and far more potent cause for the surpris-

ingly large rail movement of oats. It is the lake rates; these are fixed more upon the basis of bulk than of weight, and as oats is a bulky product, the freight per hundred pounds is considerably higher than on wheat and corn.

Enough oats can not be stowed away in the hold of a ship to secure a cargo equal in weight to that of the same ship loaded with wheat, and therefore it is necessary to fix a higher rate per hundred pounds upon oats than upon wheat. The grain car, on the other hand, is so large that there is no difficulty in loading it to its full carrying capacity with the bulky product oats, and as a consequence the rail rates on oats are no more per hundred pounds than those on wheat and corn. The larger lake movement of oats in recent years is perhaps in part explained by the fact that since the agitation for deeper channels began vessels have been constructed to draw more water when fully loaded than the existing channels would permit. This being the situation, many vessels, so to speak, would have extra cargo room or unoccupied space when transporting heavy commodities. These vessels, to a certain extent, would suffer no loss in carrying the bulky product of oats, for if they carried wheat or corn a part of the hold would remain empty.

*Shipments from Chicago.*—The following table of east-bound shipments of flour and wheat from Chicago from 1860 to 1897, compiled from the Chicago Board of Trade reports, shows the relative lake and rail shipments:

	FLOUR (BARRELS).			WHEAT (BUSHELS).		
	LAKE	RAIL	TOTAL	LAKE	RAIL	TOTAL
Year ending December 31—						
1860.....	218,741	408,082	626,823	11,817,476	377,647	12,195,123
1861.....	542,927	1,001,618	1,544,545	15,005,735	730,873	15,736,608
1862.....	1,057,803	672,961	1,730,764	13,466,325	175,322	13,641,647
1863.....						
Year ending March 31—						
1864.....	1,207,343	270,855	1,478,198	10,646,052	39,768	10,685,820
1865.....	1,034,793	208,747	1,243,540	9,983,567	114,075	10,097,642
1866.....	646,356	721,068	1,367,424	6,502,575	1,147,510	7,650,085
1867.....	481,491	1,585,776	2,067,267	5,827,846	3,605,618	9,433,464
1868.....	650,367	1,187,582	1,837,949	8,492,187	1,072,078	9,564,265
1869.....	774,556	1,749,973	2,524,529	8,896,647	2,114,300	11,010,947



	FLOUR (BARRELS)			WHEAT (BUSHELS)		
	LAKE	RAIL	TOTAL	LAKE	RAIL	TOTAL
Year ending December 31—						
1870 .....	574,393	989,160	1,563,553	13,429,069	2,621,699	16,050,768
1871 .....	488,705	694,274	1,182,979	12,120,923	576,648	12,697,571
1872 .....	223,457	1,022,968	1,246,425	8,831,870	2,363,810	11,195,680
1873 .....	428,321	1,773,467	2,201,788	15,528,984	8,149,209	23,678,193
1874 .....	555,152	1,672,037	2,227,189	16,974,149	9,725,251	26,699,400
1875 .....	328,283	1,872,943	2,201,226	16,061,054	5,956,609	22,017,663
1876 .....	236,591	2,309,530	2,546,111	7,396,369	5,378,792	12,775,161
1877 .....	148,779	2,229,729	2,378,508	10,345,983	2,957,250	13,303,233
1878 .....	321,648	2,371,623	2,693,271	12,903,481	10,018,880	22,922,361
1879 .....	330,257	2,675,402	3,005,659	17,622,796	12,232,323	29,855,119
1880 .....	527,873	2,264,886	2,792,759	16,685,046	4,742,343	21,427,389
1881 .....	159,415	4,235,559	4,394,974	7,688,072	7,728,124	15,416,196
1882 .....	792,764	2,887,603	3,680,367	14,944,258	2,920,526	17,864,784
1883 .....	801,099	3,067,275	3,868,374	7,067,657	2,696,071	9,763,728
1884 .....	753,357	3,930,576	4,683,933	11,518,884	6,322,493	17,841,377
1885 .....	652,373	4,450,051	5,102,424	5,436,461	5,496,544	10,933,005
1886 .....	1,391,235	2,244,376	3,635,611	10,513,126	2,462,918	12,976,044
1887 .....	1,544,196	4,682,546	6,226,742	17,313,351	6,893,504	24,206,855
1888 .....	1,711,370	3,613,922	5,325,292	5,895,379	3,998,998	9,894,377
1889 .....	1,811,467	1,951,274	3,762,741	10,330,675	4,814,978	15,145,653
1890 .....	1,757,745	2,172,761	3,930,506	6,965,834	2,953,826	9,919,660
1891 .....	1,640,738	2,244,280	3,885,018	31,102,888	5,470,333	36,573,221
1892 .....	2,455,006	3,123,553	5,578,559	33,498,547	6,792,284	40,290,831
1893 .....	1,471,060	2,493,206	3,964,266	19,720,775	2,618,327	22,339,102
1894 .....	1,630,345	1,926,285	3,556,630	15,016,804	940,202	15,957,006
1895 .....	791,620	1,597,495	2,389,115	13,258,440	5,666,997	18,925,437
1896 .....	1,006,951	1,666,739	2,673,690	13,232,818	9,845,117	23,077,935
1897 .....	1,060,734	1,557,342	2,618,076	18,449,628	5,511,774	23,961,402

A similar statement of corn and oats shipments from Chicago is as follows:

	CORN (BUSHELS)			OATS (BUSHELS)		
	LAKE	RAIL	TOTAL	LAKE	RAIL	TOTAL
Year ending December 31—						
1860 .....	13,063,643	577,611	13,640,654	605,304	242,580	847,884
1861 .....	23,987,240	352,044	24,339,284	1,422,776	69,731	1,492,507
1862 .....	29,248,677	125,162	29,373,839	2,470,745	357,451	2,828,196
Year ending March 31—						
1864 .....	24,749,400	120,694	24,870,094	5,696,800	2,213,058	7,909,858
1865 .....	11,998,475	616,077	12,614,552	12,098,000	2,922,792	15,020,792
1866 .....	24,421,600	674,053	25,095,653	8,719,900	1,538,383	10,258,283
1867 .....	31,457,855	1,452,162	32,910,017	7,395,113	1,911,664	9,306,777
1868 .....	19,940,172	1,612,851	21,553,023	9,745,205	388,114	10,133,319
1869 .....	21,671,071	3,367,718	25,038,789	12,755,929	2,004,191	14,760,120
Year ending December 31—						
1870 .....	13,598,387	4,018,479	17,616,866	6,339,220	2,064,333	8,403,553
1871 .....	34,200,876	2,435,220	36,636,096	8,797,599	3,312,421	12,110,020
1872 .....	41,589,508	5,388,402	46,977,910	6,370,784	5,853,319	12,224,103
1873 .....	34,487,205	2,194,361	36,681,566	5,985,954	9,559,635	15,545,589
1874 .....	30,242,311	2,364,833	32,607,144	4,741,088	5,674,137	10,415,225
1875 .....	21,850,652	4,321,559	26,172,211	4,579,248	5,512,812	10,092,060
1876 .....	28,104,265	17,299,232	45,403,497	2,997,335	8,166,155	11,163,490
1877 .....	38,607,611	7,657,511	46,265,122	5,013,278	7,424,788	12,438,066
1878 .....	46,368,653	13,504,458	59,873,111	6,255,003	10,149,386	16,404,389
1879 .....	41,561,336	19,711,615	61,272,951	1,589,939	11,880,719	13,470,658
1880 .....	72,400,769	21,100,849	93,501,618	2,139,473	18,402,996	20,542,469
1881 .....	44,164,571	29,625,348	73,789,919	4,807,581	17,844,017	22,651,598

	CORN (BUSHELS)			OATS (BUSHELS)		
	LAKE	RAIL	TOTAL	LAKE	RAIL	TOTAL
1882.....	31,494,261	16,965,706	48,359,967	3,633,638	18,966,513	22,600,151
1883.....	47,738,117	22,766,745	70,504,862	4,938,546	26,372,649	31,311,195
1884.....	27,360,924	24,526,517	51,887,441	5,444,889	27,780,317	33,225,206
1885.....	29,382,591	28,682,864	58,065,455	1,572,481	29,925,784	31,497,265
1886.....	40,956,177	18,903,051	54,859,228	3,219,833	27,756,005	30,975,838
1887.....	38,710,856	10,674,781	49,385,637	10,215,112	24,612,448	34,827,560
1888.....	47,759,708	20,520,599	68,280,307	13,764,336	25,761,204	39,525,540
1889.....	63,200,754	20,070,032	83,279,786	24,948,459	24,814,104	49,762,563
1890.....	57,255,466	31,834,558	89,090,024	18,522,884	50,604,575	69,127,459
1891.....	40,069,786	25,282,938	65,352,724	17,832,975	48,518,064	66,351,039
1892.....	43,920,570	19,900,596	63,821,166	19,127,515	44,567,510	63,695,025
1893.....	62,967,955	15,055,015	78,022,970	22,563,294	41,425,300	63,988,594
1894.....	37,148,719	16,171,144	53,319,863	13,913,761	32,719,788	46,633,549
1895.....	47,857,550	10,384,623	58,242,173	17,694,345	46,472,686	64,167,031
1896.....	74,379,206	12,063,390	86,442,596	23,798,409	55,992,549	79,790,958
1897.....	85,250,760	11,482,004	96,732,764	50,192,982	53,340,236	103,533,218

*Shipments from Milwaukee.*—From Milwaukee the percentage of lake shipments is larger, probably on account of the longer rail haul. From the reports of the

Milwaukee Chamber of Commerce the following tables of east-bound shipments from that city have been compiled:

	FLOUR (BARRELS)				WHEAT (BUSHELS)			
	RAIL	TRANSIT LINES	LAKE	TOTAL	RAIL	TRANSIT LINES	LAKE	TOTAL
1860.....	11,454	118,307	327,782	457,543	8,298	27,756	7,532,554	7,568,608
1861.....	76,371	224,632	373,471	674,474	98,780	.....	13,201,715	13,300,495
1862.....	10,183	260,947	440,275	711,405	6,773	.....	14,908,907	14,915,680
1863.....	3,439	127,468	472,619	603,526	1,756	.....	12,835,864	12,837,620
1864.....	5,265	52,251	357,317	414,833	3,712	8,169	8,980,598	8,992,479
1865.....	69,662	47,953	449,961	567,576	310,495	2,289	10,166,993	10,479,777
1866.....	242,681	83,812	393,872	720,365	695,188	63,170	10,876,391	11,634,749
1867.....	324,048	111,535	486,080	921,663	322,461	29,543	9,246,448	9,598,452
1868.....	359,721	104,882	552,995	1,017,598	455,810	10,401	9,411,888	9,878,099
1869.....	340,493	188,864	690,701	1,220,058	312,515	19,536	13,940,748	14,272,799
1870.....	233,540	209,201	783,200	1,225,941	282,061	79,752	15,766,025	16,127,838
1871.....	127,722	362,606	719,921	1,210,249	302,399	24,078	13,082,990	13,409,467
1872.....	306,076	421,757	507,168	1,235,001	785,557	168,043	10,616,975	11,570,575
1873.....	757,805	257,608	789,787	1,805,200	1,702,326	489,247	22,802,693	24,994,266
1874.....	854,584	330,271	1,032,724	2,217,579	3,172,165	1,193,786	17,889,429	22,255,380
1875.....	990,038	353,300	819,047	2,162,385	2,820,257	374,140	19,474,270	22,668,667
1876.....	1,289,147	719,268	643,977	2,652,392	2,265,374	1,751,211	12,754,987	16,771,572
1877.....	102,675	555,700	493,026	1,151,401	568,572	930,687	16,098,525	17,597,784
1878.....	170,084	533,439	734,543	1,438,066	1,937,110	2,330,795	10,510,017	14,777,922
1879.....	333,118	821,728	728,639	1,883,485	1,841,888	1,205,229	9,955,085	13,002,202
1880.....	230,415	859,666	938,575	2,028,656	1,021,490	286,462	7,025,959	8,333,911
1881.....	473,340	668,825	717,707	1,859,872	793,962	403,062	5,000,589	6,197,613
1882.....	218,241	971,369	1,540,549	2,730,159	174,110	189,548	825,576	1,189,234
1883.....	162,678	1,236,932	1,402,181	2,801,791	123,700	8,780	1,871,995	2,004,475
1884.....	200,398	1,272,860	1,581,997	3,055,205	1,446,663	66,209	2,083,817	3,296,689
1885.....	530,636	883,476	1,370,922	2,785,034	2,107,940	41,757	3,228,934	5,378,631
1886.....	153,609	1,495,500	2,344,673	3,993,782	507,695	4,146	4,205,470	4,717,311
1887.....	328,538	1,306,791	1,663,914	3,299,243	543,600	98,463	4,213,906	4,855,969
1888.....	413,418	1,167,660	1,820,123	3,401,201	682,490	35,115	1,759,508	2,477,113
1889.....	268,819	1,114,446	1,836,308	3,219,573	436,845	91,382	973,035	1,501,262
1890.....	196,389	1,379,389	1,613,728	3,189,504	203,875	122,395	1,389,714	1,715,984

	FLOUR (BARRELS)				WHEAT (BUSHELS)			
	RAIL	TRANSIT LINES	LAKE	TOTAL	RAIL	TRANSIT LINES	LAKE	TOTAL
1891.....	407,912	1,543,120	1,858,027	3,809,059	1,158,678	165,919	1,247,724	2,572,321
1892.....	467,728	1,525,035	2,312,673	4,305,436	1,299,699	454,101	1,833,994	3,587,794
1893.....	417,405	962,694	1,677,033	3,057,132	1,303,820	47,591	1,971,776	3,323,187
1894.....	336,525	928,000	1,889,686	3,154,211	224,850	13,565	231,227	469,642
1895.....	416,172	1,149,781	1,790,653	3,356,606	1,519,350	262,305	858,600	2,640,255
1896.....	410,710	2,164,016	1,975,165	4,549,891	1,084,900	370,350	797,873	2,253,123
1897.....	449,330	1,395,355	2,077,145	3,921,830	756,700	166,545	1,106,604	2,028,849

## Shipments of corn and oats:

	CORN (BUSHELS)				OATS (BUSHELS)			
	RAIL	TRANSIT LINES	LAKE	TOTAL	RAIL	TRANSIT LINES	LAKE	TOTAL
1860.....		2,257	34,947	37,204	4,599	11,704	48,379	64,682
1861.....	1,485			1,485	1,200			1,200
1862.....	9,489			9,489	3,173		75,921	79,094
1863.....			88,989	88,988	14,089		817,511	831,600
1864.....		31,846	132,940	164,786	77,252	4,058	730,324	811,634
1865.....	1,195	35,657	34,351	71,203		22,406	304,066	326,472
1866.....		29,661	450,747	480,408	3,506	16,798	1,616,391	1,636,695
1867.....	630	69,299	196,320	266,249	13,724	51,178	557,567	622,469
1868.....	650	56,707	285,360	342,717	5,195	44,533	486,811	536,539
1869.....	2,106	42,579	49,121	93,806	10,490	29,350	311,928	351,768
1870.....	18,990	36,905	47,278	103,173	3,270	84,458	122,459	210,187
1871.....	1,261	26,774	391,128	419,163	10,524	47,458	714,947	772,929
1872.....	5,458	30,240	1,522,255	1,557,953	103,860	69,831	1,149,593	1,323,284
1873.....	2,508	740	194,672	197,920	144,742	3,630	842,153	990,525
1874.....	7,051	3,280	546,232	556,563	173,651	15,513	536,871	726,035
1875.....	32,440	8,583	185,872	226,895	450,186	6,868	703,396	1,160,450
1876.....	25,509	7,678	63,371	96,558	579,221	30,909	767,430	1,377,560
1877.....	21,034	18,943	246,830	286,807	291,225	22,285	464,666	778,176
1878.....	3,970	2,744	274,152	280,866	287,808	69,942	910,534	1,268,284
1879.....	5,884	1,854	805,998	813,736	232,718	7,286	806,664	1,046,668
1880.....	73,514	59,813	1,402,848	1,536,175	533,625	148,229	670,978	1,352,832
1881.....	28,818	69,903	255,613	354,334	390,977	135,042	373,870	899,989
1882.....	69,055	28,481	284,403	381,939	395,660	43,656	263,289	702,605
1883.....	108,200	18,298	1,364,375	1,490,873	253,000	18,566	1,633,849	1,905,415
1884.....	61,900	9,970	33,806	105,676	149,159	13,697	109,634	272,481
1885.....	36,000		64,551	100,551	478,550		87,554	566,104
1886.....	49,440	1,894	31,115	82,449	244,800	3,400	123,111	371,311
1887.....	73,840	9,735	26,687	110,262	258,205	2,150	154,011	414,366
1888.....	92,060	80,849	27,454	200,363	325,855	100,652	127,672	354,179
1889.....	43,680	73,550	51,231	168,261	344,000	188,616	212,020	744,636
1890.....	8,000	51,249	215,335	84,584	1,112,533	112,325	424,345	1,649,103
1891.....	59,640	103,132	64,253	227,025	948,000	371,736	632,537	1,952,273
1892.....	296,220	91,707	28,933	416,860	1,042,000	686,455	2,579,938	4,308,393
1893.....	172,290	21,860	7,200	201,350	562,000	1,578,913	3,520,869	5,666,782
1894.....	105,950		3,217	109,167	300,000	1,133,042	4,732,963	6,166,005
1895.....	26,650	540	3,300	30,490	270,000	3,671,854	4,042,881	7,984,735
1896.....	77,600		299,278	376,878	618,000	1,820,416	10,470,812	12,909,228
1897.....	139,300	17,300	1,719,981	1,876,581	926,000	1,965,168	5,993,138	8,884,306



The grain belt of North America, especially that of the wheat grower, has been gradually moving to the Northwest during the past thirty years. Lake Superior traffic, largely in consequence of this movement, has been steadily gaining upon the wheat and flour trade of Lake Michigan. The tremendous increase of the Lake Superior grain trade is shown accurately in the statistics of the commerce of the St. Mary's canal, published on another page of this volume.

For much of the Western grain trade the ports of Lakes Michigan and Superior are active rivals. Both recognize as a common enemy the diversion of the currents in the recent years to gulf ports, and to meet this menace improvements have within the past two years been made in the elevator service of the Great Lakes. Large shippers have built independent elevators at Erie and at Buffalo with the view of reducing transfer charges at the lake terminals. The effect of this added capacity and cheapened cost must necessarily stimulate the lake carriage of cereals.

*Freight Rates.*—The average annual freight rates on wheat per bushel by lake from Chicago to Buffalo for forty-two years has been as follows:

	CENTS		CENTS
1857.....	9.89	1878.....	3.07
1858.....	3.76	1879.....	4.74
1859.....	5.08	1880.....	5.76
1860.....	9.89	1881.....	3.44
1861.....	11.53	1882.....	2.50
1862.....	10.49	1883.....	3.41
1863.....	7.51	1884.....	2.18
1864.....	9.58	1885.....	2.02
1865.....	9.78	1886.....	3.68
1866.....	12.34	1887.....	4.13
1867.....	6.67	1888.....	2.56
1868.....	7.14	1889.....	2.51
1869.....	6.81	1890.....	1.96
1870.....	5.88	1891.....	2.38
1871.....	7.62	1892.....	2.19
1872.....	11.46	1893.....	1.66
1873.....	7.62	1894.....	1.27
1874.....	4.03	1895.....	1.92
1875.....	3.42	1896.....	1.63
1876.....	2.90	1897.....	1.56
1877.....	3.72	1898.....	1.53

Freight rates on wheat from Duluth to Buffalo since 1885 have been as follows:

	CENTS		CENTS
1885.....	1½ to 5	1892.....	2¼ to 4
1886.....	3¼ to 8	1893.....	1¼ to 3½
1887.....	2 to 8	1894.....	1¼ to 3
1888.....	2 to 5	1895.....	3.50
1889.....	2 to 5	1896.....	2.12
1890.....	2 to 5	1897.....	1.75
1891.....	1¾ to 9½	1898.....	1.80

For the last four years the figures represent average of daily rates for the full season, as compiled by the *Marine Review*.

The grain commerce of Buffalo has steadily grown ever since the city was finally established, or rather ever since the harbor was established at the mouth of Buffalo creek. From the table following it will be noticed that the year 1839 was the first during which the receipts of grain reached 1,000,000 bushels; that the year 1880 was the first in which those receipts reached 100,000,000 bushels, and that in 1897 reached 200,000,000 bushels.

The following is a statement showing in bushels the receipts of wheat, corn, oats, barley and rye for the years from 1836 to 1897, both years inclusive:

GRAIN TRADE OF BUFFALO FOR 61 YEARS.

YEARS	WHEAT	CORN	OATS	RYE
1836.....	304,990	204,355	28,640	6,376
1837.....	450,359	94,490	2,533	3,260
1838.....	933,117	34,148	6,577	909
1839.....	1,117,262			
1840.....	1,004,561	71,337		
1841.....	1,635,000	201,031	14,144	2,150
1842.....	1,555,420	453,520		5,978
1843.....	1,827,241	223,966	2,489	1,332
1844.....	2,174,500	137,978	18,017	2,073
1845.....	1,770,740	54,200	23,300	
1846.....	4,744,184	1,453,258	218,300	75,780
1847.....	6,489,100	2,862,800	446,000	70,787
1848.....	4,520,117	2,298,000	560,000	17,789
1849.....	4,943,978	3,321,651	362,384	
1850.....	3,681,347	2,593,378	357,580	3,627
1851.....	4,167,121	5,988,775	1,140,430	153,725
1852.....	5,549,778	5,136,746	2,596,231	610,164
1853.....	5,420,043	8,065,793	1,580,655	508,250
1854.....	5,510,782	10,108,983	4,401,739	490,823
1855.....	8,022,126	9,711,430	2,693,222	361,895
1856.....	8,465,671	9,633,277	1,733,382	292,137
1857.....	8,334,179	5,713,611	1,214,760	86,880
1858.....	20,671,550	6,621,688	2,275,231	433,588
1859.....	9,234,652	3,113,653	394,502	486,243
1860.....	18,502,615	11,386,217	1,209,594	342,980
1861.....	27,105,219	21,024,657	1,797,905	651,479

YEARS	WHEAT	CORN	OATS	RYE
1862.....	30,435,831	24,388,627	2,624,982	1,219,688
1863.....	21,240,348	20,086,912	6,322,187	1,063,749
1864.....	17,677,519	10,478,681	11,682,637	1,098,784
1865.....	13,437,888	19,840,901	8,494,799	1,698,239
1866.....	10,479,694	27,894,798	10,227,472	2,851,869
1867.....	11,879,685	17,873,638	10,933,166	2,813,291
1868.....	12,555,215	16,804,067	11,492,472	1,584,447
1869.....	19,228,546	11,549,403	5,459,347	877,432
1870.....	20,556,722	19,410,128	6,846,983	2,447,308
1871.....	22,606,217	26,110,769	9,006,409	3,037,967
1872.....	14,304,942	34,643,180	6,050,645	3,389,734
1873.....	30,618,372	28,550,828	5,972,346	2,148,484
1874.....	29,778,572	24,974,548	5,396,781	1,322,249
1875.....	32,987,656	22,593,891	8,494,124	1,139,015
1876.....	19,324,612	20,939,853	2,397,257	3,376,876
1877.....	23,284,405	33,362,866	4,279,229	2,707,571
1878.....	35,419,136	35,133,853	5,122,972	3,510,191
1879.....	37,788,501	32,990,993	1,101,794	2,485,542
1880.....	40,510,229	62,214,417	649,350	1,079,376
1881.....	18,495,320	34,434,830	3,565,737	304,720
1882.....	26,050,030	21,664,530	1,620,170	1,468,860
1883.....	24,105,420	34,975,040	3,226,900	3,414,630
1884.....	32,469,710	18,538,340	3,174,730	2,781,190
1885.....	27,130,400	21,028,230	767,580	886,600
1886.....	41,430,440	29,155,370	1,014,670	914,360
1887.....	48,111,180	30,199,490	4,656,280	1,763,960
1888.....	27,548,110	36,422,270	7,897,310	1,355,810
1889.....	26,051,600	47,127,150	14,309,800	3,381,330
1890.....	24,868,630	44,136,660	13,860,780	6,445,730
1891.....	76,945,960	29,616,390	12,454,150	9,976,520
1892.....	78,243,560	32,377,780	16,500,250	5,917,500
1893.....	68,243,750	40,539,970	20,700,150	6,436,050
1894.....	50,194,130	29,078,520	15,560,230	9,126,285
1895.....	46,848,510	38,244,960	21,943,680	11,037,780
1896.....	54,411,207	47,811,010	40,107,499	20,002,098
1897.....	56,142,718	57,941,741	65,482,925	22,283,896

The receipts of flour at Buffalo did not reach 2,000,000 barrels until 1883, when the aggregate was 2,071,000 barrels. In 1886 they were 4,582,000 barrels; in 1890, 6,245,000 barrels; in 1893, 10,562,000 barrels; 1894, 11,488,000; 1895, 8,971,740; 1896, 10,384,184; 1897, 12,638,725, the largest on record. Reducing the flour to bushels of grain, or 63,193,635 bushels, the receipts of grain and flour in bushels at Buffalo in 1897 reached the grand total of 264,844,905 bushels.

*A Canadian Grain Route.*—A new route for the grain trade of the Great Lakes extends from upper lakes ports to Midland, on Matchedash bay, a portion of Georgian Bay. Grain, in small quantities, has been shipped to Midland for many years. The receipts there for 1897 were 2,295,203 bushels, exceeding any previous annual record. In 1898 the receipts of grain were about 6,000,000 bush-

els. A large elevator was completed at Midland in October, 1898, and greatly adds to its facilities for handling grain. The harbor at Midland is excellent, and some of the largest grain carriers on the lakes made that port during 1898, both from Lake Superior and Lake Michigan. There is also a large elevator at Goderich, on Lake Huron, built in 1898-99, which also greatly adds to the facility of handling grain *en route* through Canada.

#### GRAIN ELEVATORS AT DULUTH, ETC.

The following is a list of grain elevators at Duluth, Superior and West Superior, giving name of each elevator and capacity in bushels:

LOCATION OF PLANT	NAME OF ELEVATOR	CAPACITY (BUSHELS)
Superior.....	Belt Line Elevator M.....	750,000
Superior.....	Belt Line Elevator N.....	1,750,000
Duluth.....	Consolidated Elevator E.....	800,000
Duluth.....	Consolidated Elevator F.....	1,500,000
Duluth.....	Consolidated Elevator H.....	*1,300,000
Duluth.....	Consolidated Warehouse No. 3	700,000
Duluth.....	Consolidated Elevator Co. B.	*1,000,000
Duluth.....	Consolidated Elevator Co. C.	1,300,000
Duluth.....	Consolidated Elevator Co. D.	1,250,000
Duluth.....	Consolidated Elevator Co. G.	1,750,000
Duluth.....	Consolidated Elevator Co. I.	1,750,000
W. Superior.	Globe Elevator Co., Elevator No. 1.....	1,000,000
W. Superior.	Globe Elevator Co., Elevator No. 2.....	2,000,000
W. Superior.	Globe Elevator Co., Elevator No. 3.....	2,000,000
W. Superior.	Great Northern Elevator A...	1,800,000
W. Superior.	Great Northern Elevator X...	1,500,000
Superior.....	Terminal Elevator K.....	750,000
Superior.....	Terminal Elevator L.....	1,750,000
Total capacity.....		24,650,000

\* Private Warehouses.

#### ELEVATORS AT CHICAGO.

In 1871 the storage capacity of the 17 grain elevators then built at Chicago had reached 11,375,000 bushels. The great fire of that year destroyed six of these elevators, having a storage capacity of 2,475,000 bushels, leaving 11 elevators, with a capacity of 8,900,000 bushels. Of the elevators burned, three—the Galena, Hiram Wheeler's and Munger & Armour's—were located on the Chicago & Northwestern



MOUTH OF THE DETROIT RIVER FROM BOIS BLANC ISLAND.





road; Central elevator A was on the Illinois Central tracks; the National on the Chicago & Alton, and Lunt's stood near the canal. The storage capacity had increased from 4,095,000 bushels in 1857, or a gain of nearly 300 per cent.

Since the fire of 1871 the increase has been uninterrupted, and in 1898 the 22 elevators of the city had a capacity of 32,550,000 bushels. These elevators are as follows, as shown by the 1898 report of the Chicago Board of Trade:

NAME	OPERATOR	CAPACITY (BUSHELS)
Santa Fe El. A.....	Santa Fe El. & Dock Co.....	1,500,000
Chi. & St. L. El. and Annex.....	Keith & Co. ....	2,000,000
Alton El.....	Geo. A. Seaverns..	1,350,000
Alton B El.....	Geo. A. Seaverns..	500,000
St. Paul El.....	Chi. Ry. Terminal El. Co.....	900,000
City El.....	Chi. Ry. Terminal El. Co.....	1,000,000
Iowa El.....	Chi. Ry. Terminal El. Co.....	1,500,000
Union El.....	Chi. Ry. Terminal El. Co.....	2,000,000
Fulton El.....	Chi. Ry. Terminal El. Co.....	400,000
Rock Island El B.....	C. Counselman & Co.....	800,000
Indiana El.....	Chicago El. Co....	1,500,000
Wabash El.....	Chicago El. Co....	1,500,000
South Chi. El. B and Annex.....	South Chi. El. Co..	2,000,000
Nebraska City Packing Co.'s El.....	Neb. City Packing Co.....	2,500,000
Armour El. A.....	Armour El. Co....	1,250,000
Armour El. B.....	Armour El. Co....	1,250,000
Armour El. B Annex..	Armour El. Co....	3,000,000
Armour El. D and Annex.....	Armour El. Co....	3,000,000
Armour El. F.....	Armour El. Co....	800,000
Central El.....	Central El. Co....	1,000,000
Central El. B and Annex.....	Central El. Co....	1,800,000
National El.....	Nat. El. & Dock Co.....	1,000,000
Total 22.		32,550,000.

## GRAIN ELEVATORS AT BUFFALO.

A sketch of the growth and present capacity of the grain elevators at Buffalo will in this connection be interesting. The first Buffalo elevator was erected in 1843 by Joseph Dart, the object of its erection being the storing and transferring of grain.

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This elevator was equipped with steam power, the first in the world to be so equipped, and of course had to overcome a great amount of prejudice, as is the case with most improvements. It had a capacity of 55,000 bushels, and a transfer capacity of 15,000 bushels per day. While both the storage and transfer capacities of this elevator were very small when compared with the capacities of elevators of the present day, yet the facilities it afforded were far in advance of those previously known to commerce.

Oliver Evans, a noted genius of his day, invented in 1780 a grain elevator, which was used for many years in the handling of grain in flour mills. That he was far in advance of his age is amply proven by the fact that the application of this elevator to commerce was not discovered and made practical until 1843, and it was in Buffalo that it was first adapted to the transshipment of grain from lake vessels to warehouses and to canal boats. Previously to this adaptation the method in universal use was to raise the grain from the hold of the vessel in barrels by means of tackle and block, to weigh it with hopper and scales, swung over the hatchway of the small boat, and to carry it on the shoulders of men to the warehouse.

So great were the advantages to commerce of this elevator that it was not long after its erection by Mr. Dart that Hon. David S. Bennett, one of the leading business men of Buffalo at that time, in company with George W. Tift, built an elevator on Ohio street, and subsequently Mr. Bennett, in company with A. Sherwood & Co., erected still another on Coit slip, which was burned. In 1862 Mr. Bennett built an elevator on his own private account, which was completed in 1866, and since that time the growth of the elevator business in Buffalo has been rapid.

Mr. Dart, in March, 1865, read a paper before the Buffalo Historical Society with reference to the facilities afforded by this great improvement, in which he said:

"My experiment from the very first working was a decided and acknowledged success. Within a month after I started, a

leading forwarder, who had confidently predicted that shippers could not afford to pay the charges of elevating by steam, came to me and offered double rates for accommodation, but my bins were full. The great saving of time by the use of the elevator was immediately seen. To give an instance that occurs to my mind, the schooner John B. Skinner came into port with four thousand bushels of wheat, early in the afternoon, and was discharged, received ballast of salt, and left the same evening; made her trip to Milan, Ohio, brought down a second cargo and discharged it, and on her return to Milan went out in company with the vessels that came in with her on her first trip down, and which had but just succeeded in getting rid of their freight in the old way."

The growth of the elevator business, in Buffalo, was slow between 1848 and 1857, the number of elevators increasing only from one to three. If the capacity of each of the three, which is a very low estimate, was only equal to the first one built, there could be stored in them 165,000 bushels, and their daily transfer capacity was 45,000 bushels. Since 1857 the increase in the number and size of the elevators in Buffalo has kept pace with the growth of the country's commerce. In 1897 there were 34 elevators in use and 7 not in use, making 41 in all, the aggregate capacity of the 34 being 20,920,000 bushels. Besides these there are 6 transfer towers, and also 8 floaters. The names of these elevators, together with their several capacities, are as follows:

NAMES	CAPACITY
Bennett.....	800,000
Brown.....	250,000
Buffalo Transfer.....	90,000
City A.....	600,000
City B.....	800,000
C. J. Wells.....	550,000
Coatesworth.....	650,000
Connecting Terminal.....	950,000
Dakota.....	850,000
Eastern.....	1,500,000
Electric.....	1,000,000
Erie Basin (unused).....	.....
Erie Canal.....	140,000

NAMES	CAPACITY
Evans.....	400,000
Exchange.....	500,000
Export.....	1,000,000
Frontier.....	650,000
Great Northern.....	2,500,000
Husted.....	75,000
International.....	650,000
Kellogg.....	600,000
Lyon (unused).....	.....
Marine.....	650,000
National.....	65,000
National & Globe Mills.....	100,000
N. Y. L. E. & Western.....	720,000
Niagara A.....	800,000
Niagara B.....	1,200,000
Niagara C.....	200,000
Ontario.....	450,000
Queen City, A. B. & C.....	450,000
Richmond.....	250,000
Schreck (unused).....	.....
Sternberg (unused).....	.....
Sturges (burned).....	.....
Swiftsure (unused).....	.....
Union.....	130,000
Watson.....	600,000
Wheeler.....	350,000
Wilkeson.....	400,000
William Wells (unused).....	.....
Total, 41 elevators.....	20,920,000

The following is a brief sketch of some of the principal elevators in Buffalo:

*The Swiftsure Elevator* was built in 1844 as the Sterling Elevator, by Captain Kingman, of Buffalo. For a year or two the grain in this elevator was hoisted by horse power, and then steam engines were put in by David Bell. In 1862 it was burned down, the same fire destroying the Evans elevator and David Bell's machine shops. It was rebuilt in 1863. This elevator stands on the Evans Ship canal. Its transfer capacity is about 85,000 bushels per day of twelve hours. The last time it was in use was in 1889.

*The Marine Elevator* is located on Buffalo creek and Hatch's slip. The original Marine elevator was built by Hon. Israel T. Hatch, in 1853, and was burned in 1879. It was rebuilt, in part as it now stands, by C. Lee Abell, who, in 1894, added another portion. This elevator has a receiving capacity of 22,000 bushels per hour. It has two legs, a portable tower, a vertical engine, thoroughly modern cleaning ma-



chinery usually not found in transfer elevators, and in short all the necessary modern improvements. It is owned at present by the Marine Elevator Company.

*The Wheeler Elevator* was built originally in 1860 by C. J. Wells, but was purchased afterward by Joel Wheeler, his son A. J. Wheeler and the Scroggs estate. It was burned in the fall of 1887, and rebuilt in the winter of 1888-89. It has one leg, and is capable of transferring 100,000 bushels in a day of twelve hours. A. J. Wheeler is manager of this elevator and Albert Hall is superintendent.

*The Exchange Elevator* was built in 1862 by William Rankin, Alfred Ely and Ashley H. Ball. In December, 1889, this elevator burned, and in 1890 was rebuilt. A stock company, with a capital of \$150,000, under the name of the Exchange Elevator Company, limited, is the present owner. The transfer capacity of this elevator is about 10,000 bushels per hour.

*The Bennett Elevator* was erected in 1862-63 at the intersection of Water street and Buffalo river and the City Ship canal. It has a frontage of 150 feet on the river, and a depth of 98 feet. The bins are 52 feet deep, but vary in capacity from 3,000 to 7,000 bushels.

*The Wells Elevator*, which stands on Ohio street, between Indiana and Illinois street, was erected by C. J. Wells. As first built this elevator had a capacity of 350,000 bushels, but it was burned November 6, 1890, and rebuilt in 1891, the new elevator having a capacity of 500,000 bushels.

*The Richmond Elevator* was built in 1864. It occupies premises about 410 feet fronting on the Buffalo river through to the City ship canal. The elevator itself is 125 feet square and 125 feet high, the transfer capacity being about 300,000 bushels per day.

*City Elevators A and B.*—City Elevator A was built in 1866, on the ruins of the City elevator which had been built about 1860, and which burned six years later. City Elevator A, from the time of its erection to 1890, handled in the neighborhood of 225,000,000 bushels of grain. In 1890

City Elevator B was built, and from that time to the close of the season of 1896 the two elevators handled 186,000,000 bushels of grain. The transfer capacity of both elevators working together in the same vessel is 340,000 bushels in twenty-four hours, and they have taken in 6,600,000 bushels in a month. The two can load 320 cars of 1,000 bushels each in a day. In the spring of 1897 an additional tower was erected to Elevator A, for the purpose of enabling it to handle the extremely long boats that have recently been and which are still being built.

*The Union Elevator* was built in 1867. It is 40 x 45 feet in size, and the bins are 52 feet deep. This elevator, together with the Bennett, was managed for many years by David S. Bennett.

*The Niagara Elevator* was built in 1868 by the Niagara Elevating Company, at the corner of Ohio and Chicago streets. In 1871 this plant was purchased by Thomas Clark, who in 1881-82 built the Niagara elevator B. In 1887 the Niagara malt house was changed over into Niagara elevator C, with a capacity of 200,000 bushels, and the transfer capacity of the three elevators is 100,000 bushels per day.

*The Evans Elevator* was built by Charles W. Evans and George W. Tift. This elevator was built of wood and had a dry kiln connected with it, which took fire in 1862, resulting in the destruction of the elevator. In 1863 it was re-built of brick and slate. It stands on the Evans Ship canal, has two elevator legs and is capable of transferring 150,000 bushels in 12 hours.

*The Connecting Terminal Elevator* was built in 1882 by a stock company. It is located on Blackwell island, has a storage capacity of about 1,000,000 bushels, and a transfer capacity of about 250,000 bushels in 24 hours, when operating with both its legs. During the season of 1896 this elevator received 17,500,000 bushels of grain. This elevator is distinguished by having been the first in Buffalo, if not in the country, to have connected with it a portable tower, which is moved along the dock to a distance of about 30 feet, for the purpose of

adapting the elevator to different lengths of vessels.

*The International, Lake Shore and Dakota Elevators* were all erected about the same time, and with special reference to the receipt of grain by rail. Previously to that time all of the elevators in Buffalo had been erected with reference to the receipt of grain by water. Previously cars loaded with grain had been kept standing on side tracks scattered along the lines of the various railroads entering the city for distances of from ten to seventy-five miles. The International elevator stands on two blocks of ground bounded by Niagara, Wayne and Dearborn streets, the New York Central & Hudson River railroad and Scajaquada creek, and the Lake Shore upon land fronting on the Hamburg canal and Alabama and Scott streets, occupying 97,000 square feet of ground. These two elevators were built in 1886-87. The combined storage capacity is 1,000,000 bushels, the International receiving from the Canadian roads, and the Lake Shore from the Lake Shore, Nickel Plate, "Nypano," and the B. N. Y. & P. railroads.

*The Dakota Elevator* was begun March 16, 1887. It is located on the Buffalo Ship canal and Hatch's slip, and has a frontage on the former of 162 feet and on the latter of 335 feet. It connects with the Buffalo Creek railroad, and so through that with all the railroads entering the city of Buffalo. It has six canal deliveries, and a transfer capacity of about 175,000 bushels per day.

*The Frontier Elevator* was erected in 1886. It is located at the intersection of Hatch's slip and the City Ship canal. The plan upon which it was built was then a novel one, comprising great capacity with economy in space and power. The building is 72 x 267 feet; the height of the transfer department is 111 feet; height of marine tower, 127 feet; height of elevator above storage warehouse, 77 feet; number of bins, 126, each bin being 8 x 18 x 52 feet. The Chase system of low bins is in use, elevators of this kind being considered much safer than the old style, and the insurance is considerably lower. The location of this elevator is convenient for the unloading of

lake vessels and for the loading of cars, and its transfer capacity is 15,000 bushels per hour.

*The Coatesworth Elevator*, located on South Michigan and Ganson streets, and on Buffalo creek and Hatch's slip, was originally built in 1886 by Thomas Coatesworth. It was burned in 1893, and rebuilt in the winter of 1893-94. It can take in 22,000 bushels per hour. It can load onto canal boats about the same quantity and onto cars about 10,000 bushels per hour.

*The Ontario Elevator* stands on Erie street and the Evans Ship canal. It was built in the winter of 1889-90. This elevator has two legs and is capable of transferring 200,000 bushels per day.

*The Kellogg Elevator* stands on the south side of Buffalo creek, and is on the Pratt & Wadham slip. It was built in 1892 by the Spencer Kellogg Elevator company. It has a transfer capacity of about 10,000 bushels per hour.

*The Raymond Elevator* was started in 1893 as a floating elevator built on a canal boat by A. M. Kalbfleisch, of Brooklyn, and G. H. Raymond. To build such an elevator had not before been thought possible, but it was a success from the first. Later it was merged into a transfer tower which has since been operated. These gentlemen, Mr. Raymond and Mr. Kalbfleisch, built in the spring and summer of 1897 a grain elevator which has a storage capacity of 600,000 bushels. It stands at the foot of West Genesee street, Buffalo, N. Y., and between West Genesee and the Erie Canal slip, No. 2.

The use of iron and steel in the construction of grain elevators, was first suggested by George H. Raymond, of Buffalo, one of the owners of the Raymond elevator. Mr. Raymond arranged with Robert J. Reidpath, the well-known structural engineer, to inquire into their possibilities, and after several months of study and investigation Mr. Reidpath designed a system of construction which has been acknowledged by the most practical and eminent engineers in the country to be the most economical and practical adaptation of these materials for that purpose, bringing the cost of the bin

construction down to about that of wood, and at the same time making it absolutely fire proof.

The outer walls and partitions are only six inches thick, and they are composed of a net work of light steel channels and bar iron, no single piece above the bottom of the bins weighing more than seventy-five pounds. This net work is covered with expanded metal lath on both sides, and the space between is filled in solid with concrete and the laths are protected on the outside of the partition with cement plaster. The exterior walls have an open air space the full height of the sides, giving a free passage for the air between the outer wall and the sides of the bins, keeping the bins free from severe atmospheric changes and the penetration of moisture.

With this system of construction the entire building can be erected without the use of staging, and owing to the lightness of the various parts, it can all be set without the use of a derrick.

The first of the series of elevators erected of this material was the Raymond elevator in Buffalo. It is 50 x 200 feet in plan, divided into 32 bins, each about 12 x 24 feet in size, with an average height of 73 feet. The grain is moved by the belt-conveyor system.

*The Eastern Elevator* was built in 1893 by the Eastern Elevating Company, with a paid-up capital stock of \$1,000,000. The elevator is situated between the Sturges elevator on the west and the Kellogg Linseed Oil Works on the east. It has a wharf front of 303 feet, a depth of 180 feet and is 150 feet high. The crib is divided into 211 bins, and above it are four stories, in which all the machinery for elevating, weighing, etc., is placed. It has three marine towers and a transfer capacity of 45,000 bushels per hour.

*The Buffalo Transfer Elevator* is located on the Abbot road at the crossing of the Lake Shore road. It was built, in 1895, by the Buffalo Transfer Elevator Company. The storage capacity of this elevator is 90,000 bushels. It was built, in part, for cleaning grain, and has a transfer capac-

ity of from 25,000 to 30,000 bushels in ten hours.

*The Electric Grain Elevator Company*, in the spring of 1897, began the erection of an elevator on Buffalo creek, 500 feet east of the Ohio street swing bridge. This elevator is a unique structure, and is all of steel above the foundation. It is considered so thoroughly fire-proof that no insurance is carried upon it. Not only the frame, but also the beams, floors and stair-plates are all of steel, and it has a pneumatic elevating process, which was used in this elevator for the first time in Buffalo. The capacity of the elevator is 1,000,000 bushels, but the company owns lands adjoining so that if it should ever be necessary to increase the capacity even to 4,000,000 they can do so. It is supplied with nineteen hermetically sealed, air-tight and fire-proof tanks, seven of which have a capacity of 100,000 bushels each, while the other twelve have a capacity of 25,000 bushels each. Each of the several tanks is so divided into compartments that shipments can be kept separate, and all of the compartments have hopper-bottoms, so that they are self-cleaning. The main building is 130 feet by 40 feet on the ground, and is 146 feet high. The building and its tanks are built on solid rock, which is here only seven feet below water level.

*The Erie Canal Elevator* was originally the Clinton Mill, and was converted into an elevator in 1890. In 1894 Thomas M. Ryan, then part owner, bought the Floating elevator, since known as the Ryan Floating elevator, and in the ownership of this Stephen C. Clark became a partner. These two elevators were destroyed by fire in 1897, and immediately afterward Ryan & Clark began the erection of two new elevators on the same site, near the foot of Ferry street, on the Erie canal and Niagara river. The new Erie Canal elevator has a capacity of 150,000 bushels, and the Floating elevator has a transfer capacity of transferring 10,000 bushels per hour.

*The Northern Elevator*, which stands on Ganson street and the City Ship canal, was erected during the spring and summer of



1897. It is opposite the docks of the Union Dry Dock Company, and is undoubtedly the greatest structure of its kind in the world. It is a part of the Great Northern railway system, on the railroad lines of which one-sixth of the wheat crop of the United States is said to be raised, and which includes four elevators at Minneapolis, St. Paul and Superior of about 6,500,000 bushels aggregate capacity. This elevator has a frontage on the Blackwell canal of 296 feet, a depth of 120 feet, and a height of 167 feet from the level of the dock. The entire building is composed of steel and brick. In all the frame rafters, roof, floors, bins and machinery, there is nothing whatever that will burn. The circular steel tanks, which are the greatest feature of the structure, are placed in three ranks of ten each, with two inner rows of smaller tanks to utilize the spaces between the large ones. The capacity of the thirty large tanks is 85,000 bushels each, a total of 2,555,000 bushels; and of the eighteen smaller tanks, 18,000 bushels each, a total of 324,000 bushels, making a grand total of 2,874,000 bushels. There are also smaller shipping, storage and other bins, in the elevator, sufficient to bring the entire capacity to something more than 3,000,000 bushels. These forty-eight bins, as well as the smaller ones, are of steel, from one-fourth to a half inch in thickness, the material weighing 6,000 tons.

The equipment includes two conveyor belts 60 inches wide and 740 feet long; ten legs inside the elevator, and one in each of the three movable towers on the water side; twenty-seven garnerers and ten scales with a capacity of 1,400 bushels each, and twenty-two shipping bins of 1,400 bushels each. The three legs on the river side of the elevator can each be moved so as to be suited to different vessels unloading at the elevator. Each leg is provided with its own motor. The motors are stationary in the marine towers and are connected with the marine legs by rope drive wheels, the electric current reaching the motor by a system of trolley wheels that take up the current after the fashion of electric cars. These legs are each capable of elevating 20,000 bushels of

grain an hour from a vessel, or 600,000 bushels in ten hours, altogether.

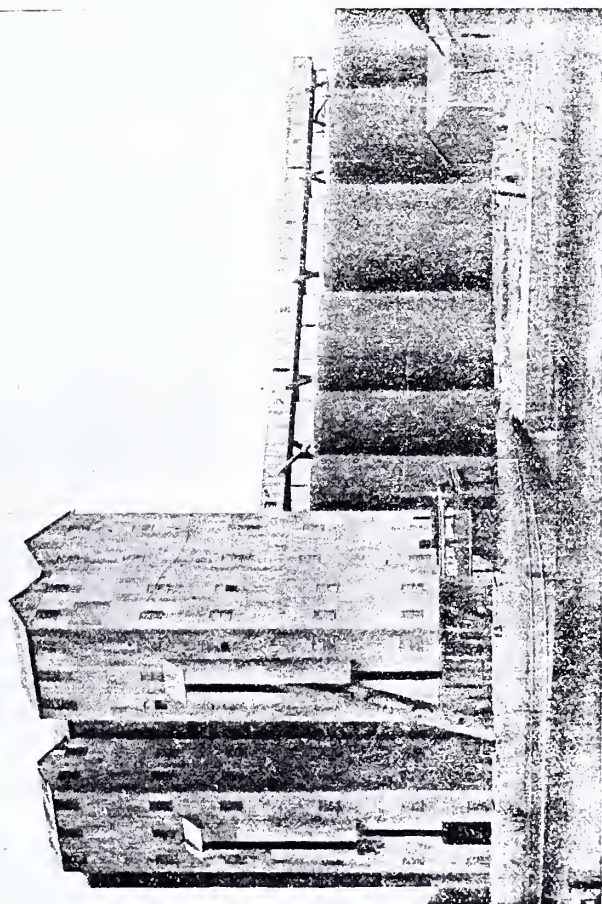
The discharging capacity of the elevator, is 300 cars a day, of ten hours, and 50,000 bushels an hour to canal boats. The entire floor of the structure that has been built on the top of the upright system of circular steel bins, is filled with garnerers, scale bins and machinery for handling the grain, prominent among the many others being the motors for transforming the electric current into power. There are in all four 100 horse-power motors, eleven 50 horse-power, and two 20 horse-power, making a total of seventeen motors, exerting 940 horse-power. Steel bulkheads divide each of the large circular bins into three compartments, making it possible to store three sorts of grain in each bin at a time. The cost of construction was \$4,000,000.

*The Western Elevating Association*, which has its offices at the southwest corner of West Seneca and Pearl streets, and which for thirty-seven years of its existence was known as the Western Elevating Company, was organized in 1857. The name was changed, in 1894, to the Western Elevating Association.

At the time of the establishment of this association there were but three elevators in Buffalo. There are now forty-one.

The association was organized to secure co-operation among the elevator owners. Its active operation was suspended in 1897, the Great Northern elevator declining to co-operate with the other elevators. It is stated that the association may be revived at any time. In 1887 the officers of this association were as follows: C. A. Bloomer; president; R. R. Buck, vice-president; P. G. Cook, secretary and treasurer. In 1896 and 1897 they were as follows: George F. Sowerby, president; William Meadows, vice-president; P. G. Cook, secretary and treasurer.

*At Erie and Elsewhere.*—One of the largest and finest elevators on the Great Lakes was recently constructed at Erie by Counselman & Co., of Chicago, and at this and at other Lake Erie ports there are grain elevators of varying capacities.



MODERN STEEL GRAIN ELEVATOR AT BUFFALO.





## CHAPTER XXIX.

### COAL TRAFFIC.

BEGINNINGS OF COAL TRAFFIC ON THE GREAT LAKES—EXTENT OF THE COAL TRAFFIC A HALF CENTURY AGO—ERIE AND CLEVELAND THE CHIEF SHIPPING PORTS—COMPETITION BETWEEN LAKES AND RAILROADS—FACILITIES FOR LOADING COAL—IMPROVEMENTS IN COAL DOCKS—MODERN CAR UNLOADERS—IMPROVEMENTS AT RECEIVING DOCKS—RECEIPTS AT LAKE MICHIGAN AND LAKE SUPERIOR PORTS—SHIPMENTS FROM LAKE ERIE PORTS—FREIGHT RATES—FUTURE OF THE COAL TRADE.

THE beginning of the coal traffic on the Great Lakes dates from the completion of canals and railroads from mines to shipping ports on Lakes Ontario and Erie, prior to 1850. Occasional cargoes, or partial cargoes, were freighted from port to port as trade might demand, but growth was not rapid. The early steamers on the lakes burned wood as fuel, and at harbors that fuel also was universally used when navigation began. The substitution of coal was a slow process.

Statistics of the early coal traffic are meager and unsatisfactory. Shipments to Lake Superior, however, have been recorded in the St. Mary's canal passages, and the traffic, as shown thereby, was for many years quite unimportant. The movement of coal through the canal in 1855 was 1,414 tons. In 1861, for the first time, it reached 10,000 tons; in 1875, 100,000 tons; in 1883, 500,000 tons, and in 1886, 1,000,000 tons. The total lake traffic is now about 10,000,000 tons annually.

*Extent of the Coal Traffic a Half Century Ago.*—Glimpses of the coal traffic of the Great Lakes a half century ago are afforded in the report of J. D. Andrews on lake commerce, to Congress, in 1852.

The imports of coal at Ogdensburg in 1847 were 3,000 tons; 1848, 3,054 tons; 1849, 2,500 tons; 1850, 490 tons; 1851, 371 tons. The decrease was due to the construction of the Ogdensburg railroad.

From the district of Oswego 3,213 tons of coal were exported in 1851 and 799 tons

imported. The exports were anthracite; the imports bituminous.

Coming to Lake Erie the tonnage is somewhat more imposing in volume. Thus Buffalo, in 1848, imported 12,950 tons of coal; in 1849, 9,570 tons; 1850, 10,461 tons; 1851, 17,017 tons. Of the coal received in 1851, 16,229 tons arrived from Erie and 788 tons from Cleveland. Dunkirk, in 1851, received by lake 766 tons of coal.

Erie became an early exporter of coal. Mr. Andrews, writing in 1852, said, "A canal from Erie to Beaver connects it with one of the finest coal regions of Pennsylvania, and this coal being bituminous and of fine quality, is used by nearly all the lake steamers. This causes many of them to put in here, when they would otherwise continue on the direct route, for Erie is from 15 to 20 miles off the direct course from Buffalo to Cleveland. The exports of coal from Erie, in 1845, were 8,507 tons; 1846, 21,534 tons; 1851, 86,000 tons."

Cleveland was slightly behind Erie in the early shipment of coal. A little coal arrived at that port *via* the Ohio canal, and the construction of a railroad making rail connection with Pittsburg added to its coal resources. In 1847, 8,242 tons of coal were exported from Cleveland; in 1848, 11,461 tons; 1851, 81,500 tons.

The total shipments of coal from Lake Erie in 1851 were 86,000 tons from Erie and 81,500 tons from Cleveland, or 167,500 tons. This was distributed generally

throughout the lake region. The receipts at Buffalo and Dunkirk were noted above. Sandusky received by lake in 1851, 2,745 tons of coal; Toledo, 1,829 tons of bituminous coal and 770 tons of Lehigh (from Oswego); Detroit, 30,106 tons; Milwaukee, 2,177 tons; Chicago, 30,000 tons.

*Competition Between Lakes and Railroads.*—Between the railroads and the lake carriers there is now active competition for the coal traffic, to supply the great northwestern country with fuel. The border land between the two is shifting from year to year. The low lake freights and the vastly improved facilities for loading and unloading vessels are throwing a heavy tonnage to the lakes. Chicago receives, practically, all its bituminous coal by rail, the supply coming mainly from Indiana and Illinois mines, with a smaller tonnage from West Virginia, Ohio, Pennsylvania and Kentucky. For vessel fueling purposes a few cargoes of bituminous arrive by boat from Lake Erie ports. Most of the anthracite handled at Chicago arrives by boat. At Milwaukee and other Lake Michigan ports northward and on Lake Superior the coal traffic is almost wholly monopolized by the lakes. But the territory supplied by those ports is contingent upon rail conditions. The railroads are pushing their trade, and during the past year West Virginia coal has been hauled in considerable quantity by rail from mines to St. Paul, Minn., for the marvelously low freight of \$2 per ton.

*Facilities for loading coal on vessels* have undergone a wonderful revolution in the past three or four years. The wheelbarrow gang of the old times has passed away. The improved bucket system which succeeded the primitive method has also gone into oblivion. All Lake Erie shipping ports are now provided with from one to four rapid-car unloaders. There are several types of these machines, and all perform a service more or less satisfactory. Their efficiency was amply demonstrated in 1897. During that season perhaps 80 per cent. of the lake coal was loaded on vessels after October 1, on account of the prolonged coal miners' strike during the summer months of that year. By these car dump-

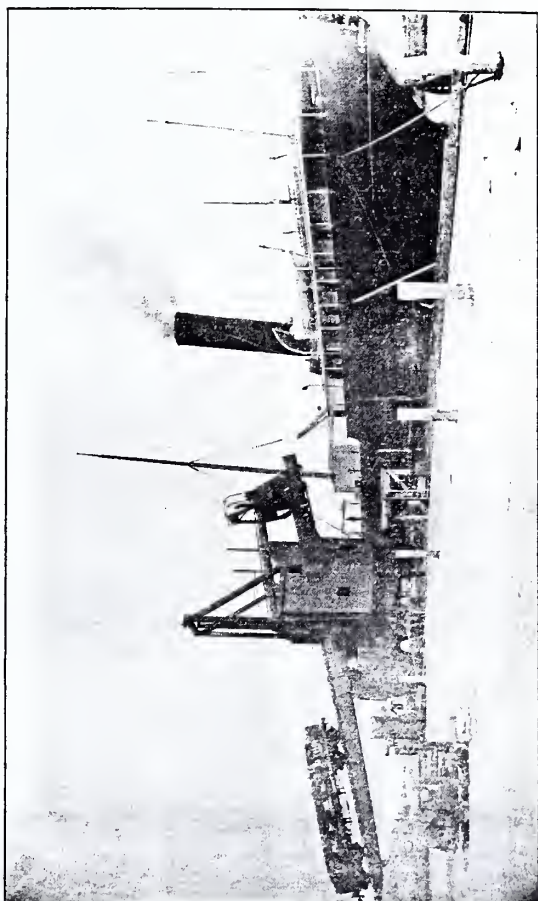
ing machines a speed has been obtained which approximates the loading of iron ore.

It is claimed that the cost of operating a complete car-dumping plant of a kind that is now in use, including the wages of the men, the necessary fuel, oil waste, etc., and allowing for depreciation, does not exceed \$40 a day. The plant is guaranteed to load from cars, holding not less than 24 tons each, 3,000 tons in ten hours, and it is claimed that with the ordinary run of gondolas and hopper-bottom cars, the capacity will easily reach 4,000 tons, or in other words the cost is reduced to one cent per ton. A record of 4,700 tons in 12 hours was made at Toledo in 1897.

*Improvements in coal docks* at upper lake ports can scarcely be said to have kept pace with the car-dumping machines at shipping ports, but work in that direction is steadily in progress. The dock of the Ohio Coal Company at Duluth, was improved in 1897, and is a good illustration of recent progress. It is a sand-filled structure, 1,560 feet in length by 300 feet in width on which both hard and soft coal are handled. Two water fronts, one on each side, are available for docks. Double railroad tracks run through the center. These tracks are straddled by a high trestle. On top of this rest two single-rail tracks, on which are run the large conveyor trusses.

Most of the coal receiving docks on Lakes Michigan and Superior may be described as having a hoisting arrangement, to lift the loaded buckets from the vessel's hold sufficiently high to drop their contents into cars, which run back on trestles and dump automatically, although in some cases the packets are carried over the stock pile. One impressive plant has immense dome-shaped storage sheds, into which the ore is delivered and from which it is discharged by mechanical conveyors. Another interesting feature is a battery of coke ovens at West Superior, in which coal brought from the lower lakes is coked.

*Lake Coal Shipments in 1897.*—In his annual report for the calendar year 1897, R. M. Haseltine, chief mine inspector of Ohio, presents a table showing the amount of coal, anthracite and bituminous, delivered



COAL UNLOADER AT ASHTABULA





at all Lake Erie ports for shipment to upper lake points. Mr. Haseltine figures out a total of 7,997,248 tons (2,000 pounds) of anthracite and bituminous shipped from all Lake Erie ports in 1897. Anthracite shipments aggregate 2,745,130 tons and bituminous 5,252,118 tons, or a decrease as compared with 1896 of 430,592 tons in the former and 513,487 tons in the latter.

Of the bituminous coal forwarded from mines to the lake ports, 3,326,814 tons were from the mines of Pennsylvania, as against 4,337,815 tons during 1896. From the Ohio fields there was forwarded to lake ports 1,355,138 tons, or an increase of 88,103 tons as compared with the preceding year. The Ohio figures represent 25 8-10 per cent. of all bituminous coal forwarded to lake ports, as compared with 21 9-10 per cent. during 1896, 32 2-10 per cent. in 1895, 28 8-10 per cent. in 1894, 46 per cent. in 1893 and 45 per cent. in 1892. From the State of West Virginia there was received at Lake Erie ports 565,166 tons, a gain of 406,449 tons over 1896. This represents 10  $\frac{3}{4}$  per cent. of the year's lake coal, as compared with 3 6-10 per cent. in 1896, 6  $\frac{1}{2}$  per cent. in 1895 and 5 3-10 in 1894.

*Coal Trade in 1898.*—The feature of the coal trade in 1898 was the additional heavy gains made in the lake shipments of West Virginia coal at the expense of Ohio and Pennsylvania fields. The shipments were made *via* ports in Ohio. West Virginia had the advantage of a much lower mining rate than the union scale paid in Ohio and Pennsylvania. Large contracts for West Virginia coal for 1899 delivery by lake have been made. During the season of 1898 lake coal crowded back traffic from western mines by rail in Wisconsin and Minnesota, making substantial gains for the season.

Regarding this present coal traffic Dr. George G. Tunell in his "Statistics of Lake Commerce" says:

"Most of the anthracite coal consigned by lake is shipped from Buffalo. Erie, Charlotte, Oswego and Ogdensburg are the other ports shipping large quantities of this coal. But very little bituminous coal is shipped from Buffalo; in 1896 shipments amounted to but 21,000 tons. Bituminous

coal is shipped from the Lake Erie ports west of Buffalo—Erie, Conneaut, Ashtabula, Fairport, Cleveland, Lorain, Huron, Sandusky and Toledo. Cleveland has been the chief shipping port of this form of coal.

"In the coal business the ports of destination are much more numerous than the ports of origin. The small ports about the lakes receive not only their own supplies of coal, but to some extent those of the surrounding country as well. The aggregate receipts of the small ports are not very large, however, and so the growth of the receipts of the large ports shows pretty accurately the increase of the business and the shifting of the great distributing centers. Fortunately we have statistics of the receipts at the great distributing ports for a long period of years. Chicago and Milwaukee, at the head of Lake Michigan, and Duluth and Superior, at the head of Lake Superior, are the centers from which the West and Northwest receive their coal."

*Receipts of coal at Chicago* by lake and rail since 1871 have been as follows:

	ANTHRACITE		EASTERN BITUMINOUS	
	LAKE	RAIL	LAKE	RAIL
	Tons	Tons	Tons	Tons
1872...	495,765	.....	90,820	.....
1873...	538,837	.....	199,107	.....
1874...	404,383	.....	257,200	.....
1875...	474,812	.....	273,894	.....
1876...	373,146	.....	338,426	.....
1877...	446,046	.....	358,713	.....
1878...	325,553	.....	404,447	.....
1879...	464,360	.....	282,469	.....
1880...	457,317	.....	288,987	.....
1881...	545,312	.....	288,161	.....
1882...	663,785	447,636	287,794	390,212
1883...	738,723	506,688	214,488	630,914
1884...	820,002	627,806	243,188	612,462
1885...	741,866	613,054	206,817	790,169
1886...	768,164	616,997	166,762	888,771
1887...	853,158	845,386	123,221	1,196,324
1888...	1,242,044	702,737	115,862	1,049,372
1889...	1,283,811	408,514	53,684	803,552
1890...	1,236,021	346,101	40,766	780,249
1891...	1,310,347	543,538	.....	976,816
1892...	1,475,237	649,826	.....	1,218,616
1893...	1,424,853	668,767	.....	1,393,614
1894...	1,277,191	528,351	.....	1,061,211
1895...	1,269,512	519,685	.....	872,198
1896...	1,319,693	641,000	.....	913,311
1897...	1,233,771	542,629	.....	1,174,231

Bituminous receipts by rail since 1890 include receipts by both lake and rail of Pennsylvania, Ohio, West Virginia and Kentucky coal; lake receipts are now very small and are not kept separate by the Chicago bureau of coal statistics. Receipts for 1896 and 1897 were furnished directly by this bureau.

*Receipts of coal at Milwaukee* by lake and rail since 1860 are shown in the following table:

	LAKE	RAIL	TOTAL
	<i>Tons</i>	<i>Tons</i>	<i>Tons</i>
1861.....	31,608		
1862.....	24,860		
1863.....	42,313		
1864.....	44,503		
1865.....	36,369		
1866.....	66,616		
1867.....	74,568		
1868.....	92,992		
1869.....	87,690		
1870.....	122,865		
1871.....	175,526		
1872.....	210,194		
1873.....	229,784		
1874.....	177,655	11,082	188,737
1875.....	228,674	15,962	244,636
1876.....	188,444	11,957	200,401
1877.....	253,640	11,144	264,784
1878.....	237,332	3,658	239,667
1879.....	325,281	25,559	350,840
1880.....	300,425	68,323	368,568
1881.....	450,005	100,022	550,027
1882.....	510,493	83,349	593,842
1883.....	550,861	61,723	612,584
1884.....	623,018	81,148	704,166
1885.....	710,736	65,014	775,750
1886.....	714,242	45,439	759,681
1887.....	724,594	118,385	842,979
1888.....	961,164	161,989	1,123,153
1889.....	907,743	72,935	980,678
1890.....	903,659	92,999	996,658
1891.....	1,006,656	149,377	1,156,033
1892.....	1,210,865	163,549	1,374,414
1893.....	1,117,448	132,284	1,249,732
1894.....	1,229,310	107,736	1,337,046
1895.....	1,336,603	109,820	1,446,423
1896.....	1,487,483	100,312	1,587,795
1897.....	1,492,278	9,299	1,501,577

*Receipts of coal at Duluth and Superior* since 1877 has been as follows:

	ANTHRACITE	BITUMINOUS	TOTAL
	<i>Tons</i>	<i>Tons</i>	<i>Tons</i>
1878.....			31,000
1879.....			
1880.....			60,000
1881.....			163,000
1882.....			260,000
1883.....			420,000
1884.....			372,000
1885.....			592,000
1886.....			736,000
1887.....			912,000
1888.....			1,535,000
1889.....			1,205,000
1890.....			1,780,000
1891.....			1,776,000
1892.....	531,547	1,281,014	1,812,561
1893.....	571,915	1,554,866	2,126,781
1894.....	562,222	1,448,509	2,010,731
1895.....	489,495	1,165,387	1,654,882
1896.....	496,169	1,279,523	1,775,712

*Lake shipments of coal from Buffalo* since 1872 are given below, from data furnished by William Thurstone, secretary of the Buffalo Merchants' Exchange. The statement includes bituminous and Blossburg coals, varying from 4,500 to 105,000 tons per year, but the great bulk of the trade is anthracite:

	TONS		TONS
1873.....	570,443	1886.....	1,541,210
1874.....	384,500	1887.....	1,912,766
1875.....	439,720	1888.....	2,527,358
1876.....	361,455	1889.....	2,168,343
1877.....	455,074	1890.....	2,188,682
1878.....	331,172	1891.....	2,404,961
1879.....	580,646	1892.....	2,881,446
1880.....	589,670	1893.....	2,703,673
1881.....	825,240	1894.....	2,485,255
1882.....	1,027,500	1895.....	2,617,268
1883.....	1,467,778	1896.....	2,400,068
1884.....	1,431,081	1897.....	2,334,329
1885.....	1,448,086		

*Shipments from Lake Erie Ports.*—The following table, prepared by R. M. Hazeltine, chief inspector of mines of Ohio, shows the shipments of coal from Lake Erie ports from 1890 to 1896, inclusive:



	1890	1891	1892	1893	1894	1895	1896
	<i>Tons</i>	<i>Tons</i>	<i>Tons</i>	<i>Tons</i>	<i>Tons</i>	<i>Tons</i>	<i>Tons</i>
Buffalo, N. Y.....	2,044,134	2,365,895	2,852,330	2,703,673	2,485,255	2,620,768	3,565,622
Erie, Pa.....	129,304	586,990	567,028	625,023	711,928	727,184	677,095
Conneaut, Ohio.....				23,184	89,023	166,073	291,178
Ashtabula, Ohio.....	452,394	386,375	726,267	787,653	669,735	998,772	1,037,242
Fairport, Ohio.....	63,360	66,914	114,738	234,089	300,923	325,064	410,307
Cleveland, Ohio.....	922,536	1,016,487	1,728,831	1,512,308	997,513	1,055,480	1,576,583
Lorain, Ohio.....	227,181	288,811	351,168	526,405	303,690	277,660	137,235
Huron, Ohio.....	150,000	200,000	240,000	227,444	213,595	208,000	257,059
Sandusky, Ohio.....	271,540	157,571	157,515	195,276	261,363	223,134	281,351
Toledo, Ohio.....	940,000	947,288	858,935	938,533	836,232	716,099	707,655
Total.....	5,200,449	6,016,331	7,596,812	7,773,588	6,869,257	7,318,234	8,941,327

*Freight Rates.* The average of daily lake rates on anthracite coal from Buffalo to Chicago and to Duluth since 1885 have thus been prepared by the *Marine Review*:

	CHICAGO	DULUTH		CHICAGO	DULUTH
1886.....	\$ .87	\$ .62	1893....	\$ .49	\$ .29
1887.....	1.05	.70	1894....	.46	.25
1888.....	.86	.65	1895....	.59	.24
1889.....	.52	.41	1896....	.36	.24
1890.....	.62	.43	1897....	.29	.26
1891.....	.56	.29	1898....	.28	.23
1892.....	.59	.43			

The average wild rates on bituminous coal from Ohio ports to the ports named have been compiled as follows by the same publication:

	MILWAU- KEE	ESCA- NABA	DULUTH	GREEN BAY	MANI- TOWOC
1886.....	\$0.83	\$0.60	\$0.87		
1887.....	1.06	.72	.89		
1888.....	.84	.61	.66		
1889.....	.54	.49	.52		
1890.....	.64	.45	.49		
1891.....	.61	.52	.49		
1892.....	.58	.43	.43	\$0.55	\$0.49
1893.....	.48	.40	.38	.50	.41
1894.....	.485	.39	.375	.495	.48
1895.....	.54	.39	.365	.50	.51
1896.....	.335	.27	.295	.325	.32
1897.....	.28½	.28½	.26	.30	.31
1898.....	.28	.26½	.23	.28½	.28½

*Future of the Coal Trade.*—There is no reason to doubt that the coal traffic of the Great Lakes will continue to increase. The needs of the Northwest are growing steadily, and nowhere in the West are there local coals available equal in value to the products of Ohio, Pennsylvania and West Virginia. The mining operations of the last named State are developing wonderfully, and the coal supplies are practically inexhaustible. Rail competition, fierce as it is at present, must yield to the cheaper cost of transportation by lake.

It was a feature of the Western fuel trade of 1898, that lake coal displaced rail shipments to many points in Wisconsin and territory beyond. During the winter of 1898-99, shipments of Illinois and Indiana coal crept northward into regions tributary to the lake commerce; but this mid-winter invasion was due solely to the inadequacy of lake supplies. There is perhaps no one fact that augurs more brightly for the future commerce of the Great Lakes than this bountiful resource of cheap and splendid fuel tributary to the lakes. After the iron ore deposits of the Northwest pass the zenith of their greatness, however remote that time may be, there will be treasures of coal transported upon the lakes in ever increasing quantities and the development of many important future industries upon the shores of the upper lakes will be the heritage of this growing commerce.

## CHAPTER XXX.

### IRON ORE AND IRON INDUSTRIES.

PRE-EMINENCE OF THE IRON ORE TRADE—THE MARQUETTE RANGE—THE MENOMINEE RANGE—THE GOGEBIC RANGE—THE VERMILION RANGE—THE MESABA RANGE—THE FIRST SHIPMENTS OF ORE TO LAKE ERIE—SHIPPING DOCKS—UNLOADING ORE AT CONNEAUT—THE IRON REGIONS OF LAKE ERIE AND AT CHICAGO—HOW IRON ORE IS SOLD—CONSOLIDATION OF INTERESTS—INVESTMENTS IN ORE PROPERTY—SHIPMENTS FROM EACH RANGE—STATISTICS OF SHIPPING AND RECEIVING PORTS—PRICE OF ORE—VESSEL RATES—FUTURE OF THE IRON TRADE.

**P**RE-EMINENCE in the traffic of the Great Lakes must be given to the iron ore. It comprises almost one-third of the entire trade of the lakes. Ore shipments date back to the opening of the Sault canal, and traffic has risen steadily in importance ever since, but only in recent years has it attained its present matchless proportions.

*The Marquette Range.*—Iron ore was known to exist in the Marquette range, which lies wholly within the upper peninsula of Michigan, as early as 1830, but the white fur traders and the Indians, who saw the outcroppings, paid little heed to the mineral. A. W. Burt, a surveyor, in September 1844, while engaged in running the east line of township 47 north, range 27 west, in Michigan, observed "remarkable variations in the magnetic needle, amounting to 87 degrees from the normal." An Indian chief in 1846 piloted P. M. Everett, of Jackson, Mich., to the Jackson Mountain and to what is now the Cleveland mine. A few hundred pounds of ore were packed down the lakes. In the same year Mr. Everett and others incorporated the Jackson Company, which erected a forge on the Carp river, about three miles east of Negaunee, and operated it for eight years. Several other forges were erected in Michigan and supplied with ore from the Jackson mine.

Little progress, however, was made in mining until 1856, when regular shipments commenced by lake from Marquette to Ohio

ports. The ore was at first carried by wagon from the mines over a plank road to the company's dock, and there conveyed by wheelbarrow to the hold of the vessel, which in those days carried from 150 to 300 tons.

The county of Marquette, Mich., includes nearly all the iron-mines that have been worked on the Marquette range, which stretches in a generally western direction from the mines at Negaunee, 10 miles from Lake Superior, to those beyond Michigamme, some thirty miles further. The geographical position of this range, nearer to eastern ports than the other iron-ranges, and its ready access from the lake, gave it for a long time a controlling advantage. The country in which the mines are situated is from 800 to 1,000 feet above the level of the lake, and is for the most part broken by steep hills, which rise from 100 to 200 feet; between these the land is rolling or swampy. The eastern part is on the water-shed between Lakes Superior and Michigan, affording good drainage.

Previous to 1846 the War Department issued warrants leasing mineral lands at a royalty, and a great number of such warrants were taken out. So far as is now known, the only work done on the Marquette range under these permits, previous to the discovery of iron, was the sinking of shafts on a small vein of silver-lead, in what is now Presque Isle park in the city of Marquette. President Martin Van Buren was interested in this enterprise.

The first attempts at mining in this district were made to supply ore for the Catalan forges erected near the mines and also in Marquette, the expense of shipment and the portage at Sault Ste. Marie preventing any but trial-lots of ore being sent away. Considerable iron was made at these forges, but always at a loss to those concerned.

In 1850 five tons of ore were sent to A. L. Crawford, of Newcastle, Pa. This was the first shipment of Lake Superior iron-ore to Lake Erie ports. In 1852 seventy tons of Jackson ore were sent to Sharon, Pennsylvania.

The locks at Sault Ste. Marie were completed in June, 1855, and at the same time a plank road was constructed from Marquette to the mines, and regular shipments were begun. In the following year the construction of a railway was begun, and it was completed in 1857.

This railway was the nucleus of the present Duluth, South Shore & Atlantic railway system; and extensions to Champion and Republic followed the discovery of these mines, the extension to L'Anse being built in 1872.

The first stimulus to the ore trade was the Civil war. There had been no returns to any of the capital invested in the district previous to 1862, when the Jackson Company declared its first dividend. From this time the yearly shipments increased from 124,169 tons to 1,162,458 tons in 1873—after which they gained slowly until 1890, when they reached the highest point, namely, 2,993,664 tons.

During the comparatively high prices that obtained until 1890, an enormous amount of exploring was done on the range; but since the opening of the Republic mine in 1872, there have been few profitable undertakings in new territory.

It was not until 1870 that the soft hematite ores of the district were considered to have any value, all the previous work having been done in the hard ores. But in the next few years a large number of pits were opened at the east end of the range in this grade of ore. After the discovery of the Menominee and later of the Gogebic, Ver-

million and Mesaba ranges, the number of explorers on this Marquette range gradually diminished. Beginning in 1880, a number of pits in limonite ore were opened near Champion and also near Michigamme. This ore, which was apparently quite shallow, and in no case very clean or regular, could be mined with profit only while prices were higher than usual. But a short time after the abandonment of Catalan forges for smelting the ore, the building of charcoal blast-furnaces began.

*The Menominee Range* lies near the center of the upper peninsula of Michigan, with a few mines extending over into Wisconsin. The range is about 50 miles in length, 20 of which are east and 30 west of the Menominee river. Mining was first attempted in 1866 near Waucedah by the Breen brothers, but was unsuccessful. In 1872 Dr. N. P. Hulst, of the Milwaukee Iron Company, began to develop the range, but the panic of 1873 stopped operations. In the latter year the Breen, West Vulcan and Metropolitan mines were found.

The principal mine in this range is the Chapin, discovered in 1879. It has had a phenomenal record.

*The Gogebic Range* was discovered in 1883. Rumors were current that year that soft red hematite ore existed near the western boundary of the upper peninsula, and prospectors were soon at work near Ashland, Wis. Beneath the roots of a tree upon a hill south of Bessemer, Mich., were found signs of ore that led to the discovery of the wonderful Colby mine. Soon after A. Lanfear Norrie, of New York City, secured an option on lands near by, and the still more wonderful Norrie mine was discovered. These and other properties were rapidly developed.

The story of Mr. Norrie's success is most interesting and illustrates the hazards of the explorer's life: When Langfear Norrie first landed at Marquette, Mich., in the summer of 1882, he was about 22 years old. He had been for some time the recipient of an annual allowance of \$10,000 from his father, Gordon Norrie, a New York millionaire. He decided to risk his annual allowance at the rather elusive game of mining.



with nothing less than \$1,000,000 as the stake for which he played.

In 1882 there was considerable excitement in the upper peninsula of Michigan over the big deposits of iron ore that were then being developed at the Chapin and other mines on the Menominee range, then in a fair way to rival the older Marquette iron range, where large fortunes had been made during the previous twenty-five years by explorers and mining investors. Norrie did his first exploratory work on the Menominee range, but the holes he caused to be sunk on various properties secured by him did not pan out well in pay dirt.

About that time reports began to reach Iron Mountain and other mining camps on the Menominee range of fair prospects for the discovery of deposits of iron ore about 50 miles to the northeast, west of Lake Gogebic and in the hills of the Penoque range, about 30 miles south of Ashland. Langfear Norrie was one of the first to start for the new district, which has since become known to fame among iron men as the Gogebic range.

Looking the country over for a few weeks, the young New Yorker decided to try his luck about a mile east of the Montreal river, the boundary line between Wisconsin and the western extremity of the Michigan peninsula. Norrie first secured an option for a lease on 160 acres of ground directly east of a piece of ground penetrated by the Montreal river, which at this point uncovered a formation of rock containing traces of iron. His option gave him the privilege of exploring the property, and provided that he should be given a lease thereof for thirty years in the event of his discovering a mine. No railroad penetrated the district at this period, and exploratory work was conducted under great difficulties.

After a year's work in the wilderness the outlook for winning \$1,000,000 from the Norrie exploration was not very favorable. A large number of holes, or test pits, had been sunk at various points on the property, and the best prospects to be found was a mixture of slate with a low grade of iron ore, or a conglomeration of hard quartzite and chunks of iron ore.

Just when young Norrie was discouraged over the prospects near the Montreal river a number of distinguished scientists visited the Gogebic range in the interest of a Pennsylvania iron company which contemplated the purchase of the Colby. The geologists and mineralogists condemned the entire country. They said that the small body of ore found at the Colby prospect was merely a "pocket" and could not possibly extend to any great depth. They furthermore declared that no paying deposits of iron ore could possibly exist in the formation of rock to be found east and west of the Colby.

Ordinarily the judgment of these scientific men would have a disheartening effect upon a person of Norrie's training and disposition. It was otherwise with him, however. He had been thrown among many veteran explorers and had imbibed some of their habits of thought. According to the explorer most bonanza mines have been discovered in defiance of all known rules prescribed by geologists.

Langfear Norrie looked at matters though the eyes of an explorer, and decided to continue the work of exploration. Several shafts were sunk at a considerable distance to the south of those which had penetrated the earth when the exploratory work was first begun. The first went down in a mixture of rock and iron ore, and the immense volume of red water which impeded the work of sinking was taken as indication of the existence of a body of pure iron ore somewhere in the immediate neighborhood.

A shaft was then sunk about 100 feet to the east and a little further to the south, and after a month's work this exploratory hole landed on top a deposit of fine merchantable iron ore, that was almost without an equal for quality in the Lake Superior country. It was a body of fine, soft ore, and it did not require many weeks of sinking to a further depth to determine that a mine had at last been discovered which was likely to net the discoverer the \$1,000,000 he had started out to win from the hills of the Lake Superior country.

A drift or tunnel was extended along the course of the ore body, at no great

depth from the surface, and it was driven in a merchantable quality of ore up to within a foot of the hole which had been sunk in rock just prior to the sinking of the one in which the lucky strike was made. This merely indicates the uncertainty of all mining ventures and the phenomenal luck which accompanied the efforts of Langfear Norrie.

As the Norrie mine began to blossom out as a prospective bonanza Solomon S. Curry visited the wilds of the Gogebic range in the interest of the Metropolitan Iron and Land Company, composed of a number of Milwaukee men. Curry was a practical iron mining man and president of his company. He saw at once that the Norrie was destined to become a great property, and he entered into negotiations with young Norrie for its purchase. The New York boy was not at all solicitous to sell the property unless assured a fair share of its future profits. He finally disposed of the mine to the Metropolitan Iron and Land Company for a snug sum in cash, a large number of shares in the stock of the corporation and a percentage of the net profits of the company in addition to whatever dividends he might be entitled to. Langfear Norrie realized much more than \$1,000,000 from his venture in the course of the next few years.

Control of this mine passed, during the summer of 1897, to individuals who were largely interested in the Carnegie Steel Co., and this valuable ore is now consumed by that company.

Excitement ran high in Gogebic mining circles during the early stages of development. Many mining companies were organized, and a craze spread throughout the lake cities to buy stock. Most of the companies proved worthless, and the reaction, which followed in due time, turned the properties over to practical men, under whose judgment and energies the range prospered, and, in 1892, became the chief ore producer on the lakes, a supremacy, which it held, however, for only one year, returning to the Marquette range for two seasons and then passing to the young Mesaba.

*The Vermilion Range*, lying wholly in

Minnesota, was developed simultaneously with the Gogebic. Explorations had been undertaken as early as 1875 near Tower, Minn., by Mr. Stuntz, of Duluth, but although a seam of hard, clean hematite, 13 feet wide, was exposed, no practical results followed. Search was renewed in 1880 and 1881 under the direction of C. Tower and Mr. Munson, of Utica, N. Y. Black magnetite was discovered, and the ore is now the property of the Minnesota Company. The Chandler, Zenith and other mines were uncovered, 100 miles of railroad were built and docks constructed at Two Harbors.

*The Mesaba Range*, youngest and most lusty of the five, dates its existence from November, 1890, when soft hematite was discovered upon land now known as the Mountain Iron mine. Ore had been found in this range as early as 1875, but it was lean or banded with jasper, and experts pronounced against the field. Persevering explorers, however, in time unearthed two commercial ores, the soft hematite and the gothite or yellow ore, rich in metallic iron and low in phosphorus. The Mesaba range has been explored from the Mississippi river eastward to the Canadian boundary, a distance of 140 miles. Following the discovery at the Mountain Iron mine came those of the Biwabic, Cincinnati, Hale and the group surrounding the town of Virginia.

In a paper read at the Lake Superior meeting of the American Institute of Mining Engineers on the "Mining Methods on the Mesaba Range," C. E. Bailey, of Virginia, Minn., said:

"The ore-bodies of the range lie in a blanket formation varying in width from 200 or 300 feet to over half a mile, and in length from 500 feet to over two miles. It is practically horizontal in bedding, but in places has a dip of as much as seven feet in 100 for a quarter of a mile. The top of the ore is in most cases nearly level, although local rolls make the back (or top of the ore) vary to the extent of 10, or in rare cases 20 feet, and very frequently there is a general slope at the top of the ore, as well as the bottom, which makes it impossible to mine it all from one level. Taking the average of long stretches, the side-walls may be

described as quite regular; but local deflections make it necessary to prospect for the wall-rock, and in drifting underground it is common to drive along the side-walls, uncovering them almost continuously, and thus making sure that no large pockets of ore are missed. The dip of the side-walls varies greatly, but an average is probably between 45 and 60 degrees, sloping inward at the bottom, making the general shape of the ore-body not exactly a basin, but more nearly a trough, usually with a longitudinal trend and sloping sides, and ore much the deepest at the center.

"The depth or thickness of the ore varies from a few feet to over 300 feet, but in rare instances exceeds over any large area 150 feet of continuous high-grade ore. As a general rule, the top-ore is poorer in quality, being especially high in phosphorus; and the same may be said of that near the side-walls, bottom and ends of the deposit, except that in these cases the percentage of iron is usually low as well. The best ore is in the heart of the deposit, and this mode of occurrence has led to a comparison with a watermelon.

"The ore is a soft hematite, but varies greatly in hardness in the different districts. The Hibbing district (especially at the Mahoning end) has a remarkably soft ore, capable of being drilled with an augur or loaded with the steam shovel without blasting. The Mountain iron-ore is but slightly harder; while the Virginia deposit has ribs of very hard ore, and the Eveleth formation is by far the hardest on the range.

"The surface consists of glacial drift from 10 to 150 feet in thickness. It is clay, well filled with granite boulders, except the last few feet above the ore, which is sand and gravel with some small boulders. It is an exceedingly hard material to handle. Most of it would be classified as hard-pan.

"The two systems of operating are the stripping or open-pit and the underground system. The stripping-mines are worked either by steam-shovel or the milling process.

"In underground work, the Fayal record of 57,000 tons in a month surpasses any

single shaft-record I have happened to hear of. This was hoisted with skips holding a little over three tons. A milling mine, the Auburn, with a 6-ton skip, hoisted 67,000 tons a month. In steam-shovel work, the Mountain Iron records of 5,800 tons in 10 hours and 164,000 tons in a month, are unsurpassed, but will probably be exceeded very soon.

"Regarding costs, it is unwise to say more than that the milling-system probably puts ore on cars for about 55 per cent. of the underground cost, if stripping is included, while the total steam-shovel cost is probably nearer 33 per cent. of the underground. Regarding the future, it seems unsafe to predict much cheapening in mining cost, as economy is already practiced on every hand, the mines are equipped in a thoroughly business-like way, and the wage-scale ought to rise rather than fall. A few improvements can be made; but costs are about as low as ought to be expected, and managers may take some pride in having reduced them to the point they have reached."

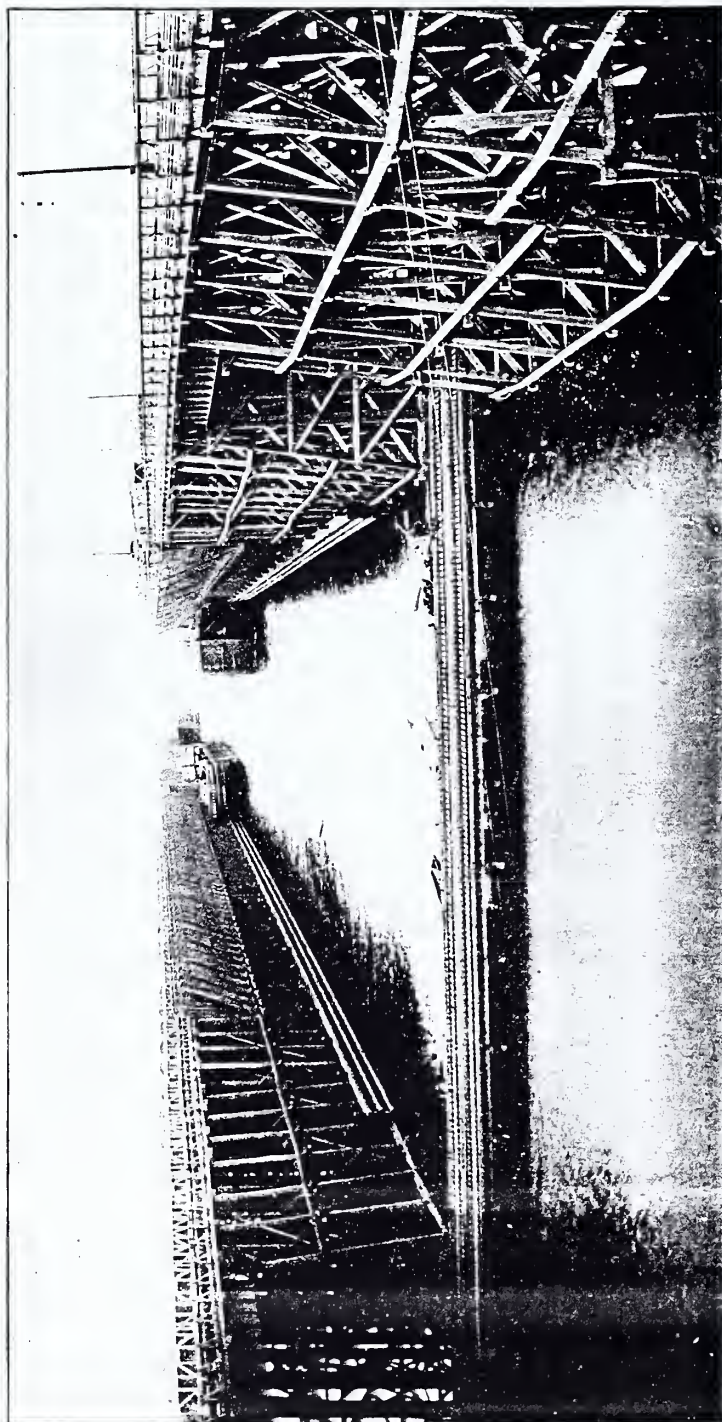
The destination of the first considerable shipments of Lake Superior ore to the lower lakes was Cleveland, for this port was connected by railroad, the present Mahoning division of the Erie system, with the Mahoning and Shenango valleys, where small iron furnaces were then melting the black and iron ores found in that locality. It was a serious question for a while whether the Lake Superior ores could be successfully worked in these furnaces.

The *Iron Trade Review*, of April, 1897, contained the following historical account of the first use of Lake Superior iron ore in the Mahoning valley, in Ohio. It had previously been used in the Shenango valley, in Pennsylvania.

The first shipment of Lake Superior ore into the Mahoning valley was made by the Cleveland Iron Mining Company, next in age to the Jackson Mining Company. This was in 1856. Some inquiries recently made by J. H. Sheadle, secretary of the Cleveland-Cliffs Iron Company, successor to the Cleveland Iron Mining Company, have brought out some of the particulars of this first use of Lake Superior ores in Ohio. It is estab-







IRON ORE SHIPPING DOCKS, DULUTH, MINN.

Length of each 2,304 feet; total capacity 100,000 tons; time required to load 5,000 tons of ore into a vessel, one hour.

lished that the first shipment of Cleveland ore was made in the steamer Ontonagon, in 1856, and consisted of 269 tons. The steamer left Marquette on June 18 of that year and arrived at Cleveland on June 24. The first shipment of this ore to the Mahoning valley was made in 1857 and Charles T. Howard was the purchaser. The officers of the Cleveland Iron Mining Company, with whom Mr. Howard made his contract, were Samuel L. Mather, H. B. Tuttle, W. J. Gordon and Dr. Hewitt. Mr. Howard is now living at Jamestown, Pa., and is 76 years old. Among other correspondence, Mr. Sheadle has the following letter from Mr. Howard, which gives interesting details concerning the particular matter under inquiry, and as well concerning the status of ironmaking in Northeastern Ohio at that early day:

"In 1847 or 1848 a company of Welshmen built a furnace in Summit county, Ohio, not far from a place known as the Old forge, near Akron, Ohio, and expected to get the coal from a mine that was being worked a little near Tallmadge, five miles from Akron. They put up a good stack and good machinery, but after several trials found out that the Tallmadge coal would not do for smelting, so they quit, gave up the whole thing as a failure, leaving machinery and everything standing there. I bought the whole thing for a small sum, took it down and moved it to Youngstown, built the Falcon furnace, and used the Welshmen's machinery and everything else I could use. I had saved up \$700 from my salary with Captain Ward, and I thought I was rich enough to be an ironmaster on my own account. I found out later on that \$700 was not anything like enough money to build and run a blast furnace; so after running one year I sold out to James Wood & Co., of Niles, Ohio, went to Massillon, Ohio, and built the first Massillon furnace for Marshall Wellman, who was president of the Massillon Bank.

"In 1854 I returned to Youngstown and built the Phoenix furnace in company with Lem. Crawford, of Cleveland. The firm was Crawford & Howard, and everything went along smoothly and would have con-

tinued so but Mr. Crawford had a son that represented him at the furnace. I could not get along with him, so I sold my interest to Mr. Crawford and bought back the Falcon from Wood & Co. I rebuilt the stack and made improvements of different kinds, but the iron made from the lean ores about Youngstown was not just what was altogether suitable for the Pittsburgh rolling mills in making iron and nails. That being the principal market, ore that would mix with the native ore and improve the quality of the pig iron was much desired and sought for. So, in 1857, when I saw a notice in the Cleveland *Herald* that the Cleveland Iron Mining Company had received a cargo of Lake Superior ore, and was prepared to supply blast furnaces and rolling mills on reasonable terms, I made a trip to Cleveland in order to see the ore and get some idea of what it would yield and what it would cost delivered in Youngstown. I met the president and Mr. Tuttle, who was secretary, and found them to be anxious to have the furnaces commence the use of their ore. They said they were prepared to furnish a steady supply; so I made arrangements with them to send me a few carloads at once. Let me say that the idea prevailed at that time amongst the furnacemen that Lake Superior ore could not be smelted with raw coal; that the ore would have to be roasted first and the coal made into coke before using. But there was nothing of this necessary. It worked nicely from the start, improving the quality of the iron by giving it body, and very much increasing the output of the furnace per day and making the cost per ton for labor less and the iron more salable as well.

"And from year to year, in watching the advance in the manufacture of iron in Northern Ohio, and how much it has added to the building up of the Lake City, all this growth being in a great measure owing to Lake Superior ore, it is pleasant to look back to the day the first cast was made from it at the Falcon furnace in Youngstown, and to know that it has continued in use through all these years."

*Shipping Docks.*—For the shipment of the iron ore mined in the Lake Superior



region, more than a score of docks, fitted with pockets, have been erected at a cost of nearly \$7,000,000. Some of the older docks have been abandoned, and the newer ones embody improvements as to construction, heights, handling, appliances, etc., and although the details have been carefully studied out the cost is sufficiently great to make an appreciable charge for interest and maintenance on each ton of ore handled. The following figures will give an idea of one of the later constructions.

The dock of the Duluth, Mesaba & Northern railroad at Duluth extends into the bay 2,850 feet, its surface being 52.8 feet above the water level, and is equipped with 384 pockets, each with a capacity of 135 tons when trimmed, so that the storage of the dock may be taken in round numbers at 50,000 tons. These pockets are reached by four tracks on the deck of the dock, on which cars with drop bottoms are run. The dock and its approach required 9,250,000 B. M. feet of lumber, and cost \$436,000. Twelve boats can be loaded at a time, and 43,000 tons of iron ore have been sent forward from this dock in one day.

The dock at Marquette, with 270 pockets and very short approach, cost \$237,000, and in round numbers a dock proper may be estimated at \$1,000 per pocket, or \$10 per ton capacity.

The ore shipping docks, although differing in length, width and height, are constructed upon one general plan, viz.: a series of pockets, supported on framing, which rests on piles, the pockets each terminating in a door to control the flow of ore into a steel spout weighing 2,500 pounds, which is let down so as to discharge the ore into the hatches of vessels. Over these pockets are the railroad tracks, on which ore is carried by drop-bottom cars.

There are now on Lakes Superior and Michigan twenty-two ore docks. These twenty-two ore shipping docks have a total of 4,624 pockets, with an aggregate capacity of 633,804 gross tons, which have cost \$6,849,529. They are located as follows: Two Harbors, five docks, 729 pockets of 109,150 gross tons capacity, cost of construction, \$1,650,000; Duluth, two docks,

576 pockets of 72,160 tons capacity, \$860,021; Superior, one dock, 250 pockets of 37,500 tons capacity, \$413,619; Ashland, three docks, 782 pockets of 101,776 tons capacity, \$942,576; Marquette, including St. Ignace and L'Anse, six docks, 1,083 pockets of 125,000 tons capacity, \$1,733,304; Escanaba, four docks, 810 pockets of 100,000 tons capacity, \$800,000; Gladstone, one dock, 120 pockets of 17,000 tons capacity, \$128,009.

The length of the iron ore shipping docks, independent of approaches, varies from 559 feet to 2,304 feet, the aggregate of all being about 27,000 feet, or, say, 5 miles.

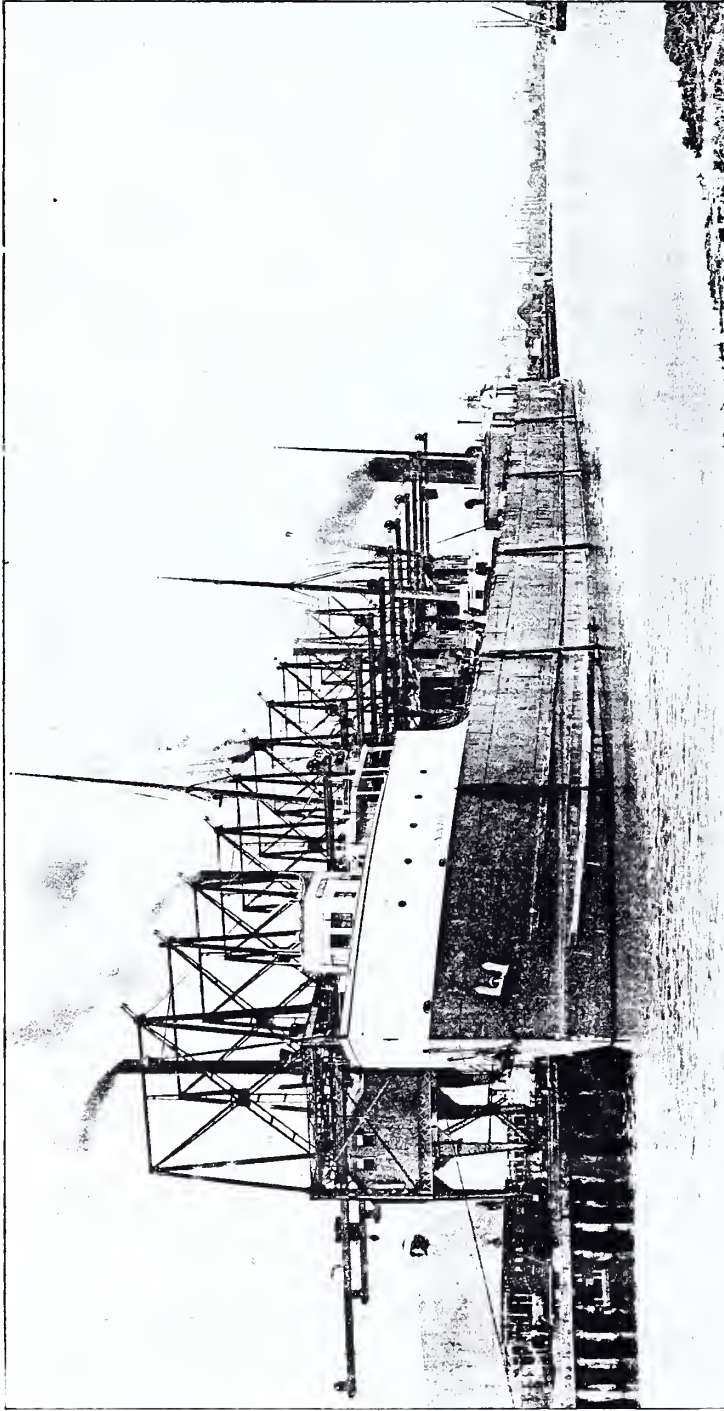
The methods of unloading ore from vessels at the receiving docks were until early in the eighties very primitive, the ore being hoisted in wooden buckets by horsepower, placed in wheelbarrows, wheeled back on the dock and dumped upon stock piles. A revolution has been wrought in recent years, so that now all the docks are equipped with costly hoisting and conveying machinery for rapid unloading, and the largest vessels can be unloaded in twelve to fourteen hours.

*Unloading Ore at Conneaut.*—Machinery for rapid unloading of ore from vessels exists at all the receiving docks. One of the most recent is that of the Pittsburg & Conneaut Dock Company, at Conneaut. The ore unloading plant will unload 6,000 ton cargoes easily within a working day, and under pressure will complete the task in seven hours. The removal of this freight by ordinary methods usually takes from 14 to 17 hours. The machine operates over five railroad tracks, two being spanned by the machine and three being under the boom or cantilever.

There are four groups of three machines each in the plant. Each group is entirely separated and self-contained. The operators are in position to see all movements of the bucket except when it is under the hatch. Each group of three legs is self-propelling.

Each leg in this plant will handle from sixty to eighty buckets an hour under favorable conditions. With twelve legs the





STEAMER UNLOADING AT CONNEAUT, OHIO.  
This plant is used for unloading from the steamer and loading directly into the cars.



extreme capacity of the plant would therefore be nearly 1,000 tons an hour, but if only 900 tons an hour is figured on the total of seven hours' work would be 6,300 tons.

The iron-producing region tributary to Lake Erie has for years been the greatest center in the manufacture of this industrial metal in the country, and is now the greatest in the world. The second in the vastness of its product is the Chicago district, where the Illinois Steel Company is the great factor in this industry. The inception of the company dates back to May, 1857, when Capt. Eber B. Ward, of Detroit, a well known and wealthy vessel owner, resolved to construct, with the aid of a few friends, what was then known as Ward's rolling mill, on the north branch of the Chicago river. The capital provided was \$225,000. All material for the operators was received by water, there being then no rail connection with the plant. A steamer was built to run on the Chicago river, somewhat after the model of a Mississippi river boat, with clear decks and a carrying capacity of 150 gross tons. The fuel used was delivered by sailing vessels in about 500 ton cargoes from Lake Erie ports, and the scrap iron consumed came from the various docks of the Chicago railways. Iron rails were rolled here in 1858 and the plant grew, becoming, in 1864, the Chicago Rolling Mill Company, with \$500,000 capital. In 1869 two blast furnaces were added, other improvements made and the North Chicago Rolling Mill Company incorporated with \$1,000,000 capital. In 1878 the Milwaukee Iron Company was absorbed, works were built at South Chicago in 1880, consolidation was formed with the Union Steel Company and by the purchase of the Joliet Steel Company, the Illinois Steel Company was created in 1889. It has now an authorized capital of \$50,000,000, of which \$18,650,635 has been issued. The output of Ward's rolling mill the first year was 4,500 tons of rerolled iron rails. The present output of the Illinois Steel Company exceeds 1,000,000 tons of iron annually. Nearly 2,000,000 tons of iron ore are consumed each year at Chicago.

*How Iron Ore is Sold.*—The vast iron

ore interests are handled by very few companies. A half dozen of the latter control, practically, the entire output. In early times the mining companies had headquarters in Cleveland, and sold ore by samples, which they kept for that purpose in their offices. Several of these old companies, including the Cleveland Cliffs Iron Company, the Jackson Company, still dispose in this way of the product of their mines, but most of the ore is now sold through agents, who have become the controlling factors in the vast commerce.

The acquisition, during the past two or three years, of large iron ore mining properties by the chief consumer in the Pittsburgh district, the Carnegie Steel Company, has greatly modified this method of bringing the ore producer and ore consumer together in trade, and the present tendency is for the two interests to unite, thus revolutionizing the practice which existed prior to 1895.

*Consolidation of Interests.*—The various forms of property, essential to the production and transportation of iron ore from mine to furnace, have united under practically one management—mines, railways to shipping ports, vast storage docks, immense freight carriers on the lakes, docks and machinery at receiving ports, railroads thence to furnaces, and lastly extensive iron works.

This consolidation of interests applies to the Carnegie Steel Company, which consumes about 40 per cent. of the iron ore now reaching Lake Erie ports, and to the Illinois Steel Company, which consumes, with the exception of ore for one furnace, the entire receipts at Chicago and Milwaukee.

*Investments in Ore Property.*—Statistics show that the capital invested in the Lake Superior iron ore mines and their equipment amounts to about \$125,000,000; in iron ore shipping and receiving docks, with approaches, etc., \$16,000,000; in railroad transportation for iron ore exclusively to ports on the lakes above mentioned, \$40,000,000; in vessels which are chiefly engaged in the iron ore traffic, \$50,000,000; in docks on Lake Erie between Toledo and Buffalo, for receiving and shipping iron ore,

and on Lake Michigan, \$20,000,000; and in railroad transportation of the ore from lower lake ports to furnacds, \$35,000,000. The total amount of capital invested in the Lake Superior iron ore trade exclusively is nearly \$300,000,000.

*Shipments from Each Range.*—The following table shows the amount of ore shipped from each range from the time mining operations began to the present::

	MAR- QUETTE	MENOM- INEE	VER- MILION	GO- GEBIC	MESABA
1854.....	3,000				
1855.....	1,449				
1856.....	36,343				
1857.....	35,646				
1858.....	65,878				
1859.....	68,832				
1860.....	124,401				
1861.....	49,909				
1862.....	124,169				
1863.....	203,055				
1864.....	243,127				
1865.....	236,208				
1866.....	278,796				
1867.....	473,567				
1868.....	491,449				
1869.....	647,444				
1870.....	830,940				
1871.....	779,607				
1872.....	900,901				
1873.....	1,162,458				
1874.....	919,557				
1875.....	891,257				
1876.....	992,764				
1877.....	1,010,494	4,593			

	MAR- QUETTE	MENOM- INEE	VER- MILION	GO- GEBIC	MESABA
1878.....	1,033,082	78,028			
1879.....	1,130,019	245,672			
1880.....	1,384,010	521,735			
1881.....	1,597,834	727,171			
1882.....	1,829,394	1,136,018			
1883.....	1,305,425	1,047,415			
1884.....	1,548,034	895,634	62,124	1,022	
1885.....	1,480,422	690,435	225,484	119,860	
1886.....	1,627,380	880,006	304,396	753,362	
1887.....	1,851,414	1,193,343	394,252	1,322,878	
1888.....	1,923,737	1,191,101	511,953	1,437,096	
1889.....	2,642,813	1,796,754	844,682	2,008,394	
1890.....	2,993,664	2,282,237	880,014	2,847,810	
1891.....	2,512,242	1,824,619	894,618	1,839,574	
1892.....	2,666,856	2,261,499	1,167,650	2,971,991	4,245
1893.....	1,835,893	1,466,197	820,621	1,329,385	613,620
1894.....	2,049,107	1,137,949	948,513	1,809,468	1,793,052
1895.....	2,097,838	1,923,798	1,077,838	2,547,976	2,781,587
1896.....	2,604,221	1,560,467	1,088,090	1,799,971	2,882,079
1897.....	2,715,035	1,937,012	1,278,481	2,258,236	4,280,873

The total shipments from the Marquette range to the close of the season of 1897 were 49,253,222 tons; Menominee, 24,931,441 tons; Vermilion, 10,498,716 tons; Gogebic, 23,047,023 tons; Mesaba, 12,355,456 tons; grand total, 120,088,178 tons.

#### STATISTICS OF SHIPPING AND RECEIVING PORTS.

*The destination of ores* in recent years is shown by the following table, compiled by the same authority:

	TOLEDO	SAN- DUSKY	HURON	LORAIN	CLEVE- LAND	FAIRPORT	ASHTA- BULA	CON- NEAUT	ERIE	BUFFALO TONA- WANDA	TOTAL	RECEIPTS OF OTHER LAKE PORTS
1880.....					758,983		298,594					
1881.....					826,419		377,976					
1882.....					993,046		598,037					
1883.....	27,617	58,825		25,794	723,129	40,334	670,000		106,787	40,203	1,692,689	
1884.....	2,444	166,540		30,156	904,850	23,100	650,000		116,027	8,760	1,841,877	548,728
1885.....	15,000	142,180		13,180	589,234	31,992	582,000		122,223	7,160	1,503,969	924,517
1886.....	26,960	157,970	44,021	99,744	1,034,650	112,000	672,000		91,250	31,869	2,270,554	1,222,632
1887.....	61,729	160,600	21,288	134,764	1,216,423	501,368	1,103,839		20,488	28,699	3,439,198	959,659
1888.....	75,601	154,924	4,351	197,000	971,775	611,140	1,288,530		240,338	240,000	3,783,659	838,288
1889.....	82,961	186,082	680	280,000	1,742,415	849,121	1,963,490		373,595	298,000	5,856,344	948,167
1890.....	164,295	174,596	1,200	280,450	1,945,492	1,096,408	2,176,730		487,493	548,000	6,874,664	1,188,463
1891.....	191,105	106,907	14,910	266,009	1,256,775	699,434	1,599,785		393,759	410,000	4,939,684	1,504,756
1892.....	139,987	49,736	65,000	190,400	1,950,224	866,611	2,555,416	1,130	645,230	197,000	6,660,734	1,884,580
1893.....	145,515	4,464	137,700	165,667	1,260,716	792,517	1,845,738	203,207	469,299	308,238	5,333,061	548,153
1894.....	158,384	23,043	172,775	150,424	1,624,573	976,222	1,987,722	237,905	624,438	395,339	6,350,825	1,279,004
1895.....	260,730	12,361	146,442	214,219	2,312,370	914,617	2,474,791	244,967	811,989	719,742	8,112,228	2,121,682
1896.....	301,794	58,667	226,515	191,445	2,313,170	941,446	2,272,822	327,623	847,849	545,101	8,026,432	1,631,489
1897.....	416,438	79,792	198,231	355,188	2,456,704	1,008,340	3,001,914	495,327	1,311,526	797,446	10,120,966	2,094,739
1898.....	414,012	136,200	126,755	536,086	2,645,398	912,879	2,684,563	1,404,160	1,092,362	1,075,975	11,028,321	2,622,467



The receipts "of other lake" ports were mainly at South Chicago. The iron ore receipts at South Chicago in 1897 were 1,731,014 tons; at Chicago, 89,198 tons; total for the city, 1,820,202 tons. In 1898 receipts of iron ore at South Chicago were 2,212,-

032 tons; at Chicago, 63,934 tons; total, 2,275,966 tons.

Shipments of Lake Superior iron ore by ports in recent years have thus been compiled by A. I. Findley, editor of the *Iro Trade Review*:

	MARQUETTE	ESCANABA	ST. IGNACE	L'ANSE	ASHLAND	TWO HARBORS	GLADSTONE	SUPERIOR	DULUTH	TOTAL
1884....	918,489	1,356,587	51,109	64,420	119,563	225,484				2,390,600
1885....	750,047	1,219,777	93,588	20,027	721,983	304,396				2,428,488
1886....	853,396	1,538,821	74,590		1,040,727	390,467				3,493,181
1887....	803,411	2,072,708	91,554		1,016,414	450,475				4,398,882
1888....	844,694	2,202,965	107,399		1,484,802	819,639	68,250			4,621,940
1889....	1,376,335	3,003,632	51,853		2,123,856	826,063	91,091			6,804,501
1890....	1,307,395	3,714,662			1,261,658	890,299	177,866			8,063,000
1891....	1,056,027	3,058,590			2,223,684	1,165,076	115,886	4,245		6,444,440
1892....	1,026,338	4,010,085			1,117,520	903,329	203,585	80,273	440,592	8,545,310
1893....	1,086,934	2,041,981			1,738,590	1,373,253	79,208		1,369,252	5,881,210
1894....	1,424,850	1,644,776			2,350,219	2,118,156	109,211	117,884	1,598,783	7,629,881
1895....	1,079,485	2,860,172			1,566,336	1,813,992	220,888	167,245	1,988,932	10,233,910
1896....	1,578,600	2,321,928			2,067,637	2,651,465	341,014	531,825	2,376,064	9,657,920
1897....	1,945,519	2,302,121			2,391,088	2,693,245	335,956	550,403	2,630,610	12,215,660
1898....	2,245,973	2,803,513								13,630,780

The rapid growth of the iron interests of the Great Lakes relatively to the total output in the United States is shown by the subjoined figures, giving by years the total production of ore in the lake region and in the United States, and the per centage of the former to the latter:

	TOTAL IN U. S.	LAKE REGION	PER CENT.
1850.....	1,579,318	5,700	.4
1860.....	2,873,459	119,910	3.0
1870.....	5,302,952	908,613	17.1
1880.....	7,120,362	1,985,334	26.5
1885.....	7,600,000	2,485,855	32.6
1890.....	16,136,043	9,003,725	56.2
1891.....	14,591,178	7,071,053	48.4
1892.....	16,296,666	9,072,241	55.6
1893.....	11,587,629	6,065,716	52.3
1894.....	11,879,679	7,748,312	65.2
1895.....	15,957,614	10,429,037	65.3
1896.....	16,005,449	9,934,828	62.1
1897.....	17,811,937	12,469,638	70.0

#### PRICE OF ORE.

The following table of the price of ore at Lake Erie ports from 1850 to 1897, in-

clusive, was prepared by James E. Jopling of Marquette:

	BESSEMER	NON-BESSEMER
	Dollars	Dollars
1854.....		
1855.....		
1856.....	8 00	8 00
1857.....	8 00	8 00
1858.....	6 50	6 50
1859.....	6 00	6 00
1860.....	5 25	5 50
1861.....	5 25	5 00
1862.....	5 25	5 37
1863.....	7 50	7 50
1864.....	8 50	8 50
1865.....	7 50	7 50
1866.....	9 50	9 50 to 14 0
1867.....	10 50	8 00 to 11 5
1868.....	8 25	8 25
1869.....	8 25	9 50
1870.....	8 50	8 50 to 9 5
1871.....	8 00	8 00
1872.....	9 00	7 50
1873.....	12 00	9 00
1874.....	9 00	7 00
1875.....	7 00	5 50
1876.....	6 75	4 40
1877.....	6 50	4 25
1878.....	5 50	4 25
1879.....	6 25	4 75
1880.....	9 25	8 00



	BESSEMER.	NON-BESSEMER
	Dollars	Dollars
881.....	9 00	7 00
882.....	9 00	6 25
883.....	6 25	5 00
884.....	5 76	4 50
885.....	5 50	4 25
886.....	5 50	4 75
887.....	7 25	5 25
888.....	5 50	4 75
889.....	5 50	4 50
890.....	6 75	5 75
891.....	6 00	4 75
892.....	5 50	4 85
893.....	4 25	3 00 to 3 50
894.....	2 75	2 15
895.....	2 75 to 3 50	2 15 to 2 30
896.....	4 00	2 45 to 2 85
897.....	2 65	2 00 to 2 60

Speaking of the present low price of ore D. H. Bacon, of Soudan, Minn., in a recent paper said: "As illustrating the cheapening that has been effected, ore is to-day sold at Lake Erie ports for one dollar per ton less than in early times it actually cost to mine it; and this is done without loss, and further economies may be expected. Young men remember sales of ore in Pittsburg at \$18 per ton, or about the present price of rails."—The *Iron Trade Review* adds: "It is within the recollection of gentlemen connected with one of the oldest iron mining companies, that a few small sales of Marquette ore, for mill fix, were made early in 1873, just before the opening of navigation, at \$18, Cleveland. It is also a matter of memory that a small lot of Republic ore for fix, was sold early in the '70s at \$16.25, Cleveland, the freight to Pittsburg being \$1.50. The highest season's average we have found was \$12.17, that being the record of the Cleveland Iron Mining Co. for 1873."

## VESSEL RATES.

The following table of vessel rates per ton from Marquette and Escanaba from the time the Sault canal was opened down to the present year is from a paper on "The Marquette Range," read in the summer of 1897 by James E. Jopling, of Marquette, Mich., at the Lake Superior meeting of the American Institute of Mining Engineers:

	MARQUETTE	ESCANABA
	Dollars	Dollars
1854.....		
1855.....		
1856.....	3.00	
1857.....	3.00	
1858.....	2.00 to 2.50	
1859.....	2.00 " 2.50	
1860.....	2.00 " 2.50	
1861.....	2.00 " 3.00	
1862.....	2.25 " 4.50	
1863.....	3.00 " 4.00	
1864.....	3.00 " 5.00	
1865.....	2.50 " 5.00	
1866.....	2.75 " 6.50	2.50 to 5.75
1867.....	2.00 " 4.00	1.50 " 3.50
1868.....	2.25 " 3.25	1.60 " 2.60
1869.....	2.75 " 4.10	1.50 " 2.50
1870.....	2.50 " 3.25	1.65 " 2.50
1871.....	2.25 " 4.00	1.50 " 2.50
1872.....	2.85 " 6.60	2.00 " 5.25
1873.....	3.25 " 4.00	2.30 " 3.00
1874.....	1.60 " 2.50	1.30 " 1.40
1875.....	1.30 " 1.50	1.10 " 1.30
1876.....	1.25 " 2.20	0.70 " 1.45
1877.....	1.25 " 2.00	0.65 " 1.50
1878.....	1.00 " 1.50	0.60 " 1.15
1879.....	1.25 " 3.00	0.70 " 2.10
1880.....	2.00 " 2.75	1.50 " 2.00
1881.....	2.00 " 2.30	1.00 " 1.60
1882.....	1.25 " 2.00	0.90 " 1.40
1883.....	1.30 " 1.75	0.90 " 1.50
1884.....	1.00	0.65
1885.....	1.40	1.00
1886.....	1.75	1.35
1887.....	2.15	1.75
1888.....	1.10 to 1.15	0.90 to 1.45
1889.....	1.10 " 1.25	0.90 " 1.25
1890.....	1.00 " 1.25	0.85 " 1.05
1891.....	0.70 " 1.40	0.55 " 1.25
1892.....	0.80 " 1.15	0.65 " 1.00
1893.....	0.50 " 0.95	0.45 " 0.80
1894.....	0.55	0.40
1895.....	0.60	0.45
1896.....	0.66	0.52
1897.....	0.50	0.45

A table of average rates of freights on iron ore to Ohio ports during the past twenty-two years has been prepared by the *Marine Review*. The averages of daily rates, or rates on wild cargoes, was made up by collecting from several shippers and vessel brokers their lists of charters during the season, from which a general list was prepared, that includes in nearly all cases actual charters for every day of the season. The sum of these daily rates divided by the number of days gives the average quoted. These averages are what may be termed daily averages, and not the figures at which the entire tonnage of either coal or grain was moved.

	ESCANABA		MARQUETTE		ASHLAND AND OTHER PORTS AT THE HEAD OF LAKE SUPERIOR.	
	WILD OR DAILY RATE	CONTRACT RATE	WILD OR DAILY RATE	CONTRACT RATE	WILD OR DAILY RATE	CONTRACT RATE
1876.....	\$ 86	\$1 20	\$1 35	\$1 50	.....	.....
1877.....	98	1 00	1 41	1 40	.....	.....
1878.....	81	90	1 22	1 30	.....	.....
1879.....	1 25	90	1 83	1 40	.....	.....
1880.....	1 70	1 85	2 26	2 75	.....	.....
1881.....	1 36	1 75	2 05	2 45	.....	.....
1882.....	1 04	1 40	1 26	1 75	.....	.....
1883.....	1 22	1 00	1 40	1 20	.....	.....
1884.....	87	1 10	1 08	1 35	.....	.....
1885.....	78	90	98	1 05	\$1 25	\$1 15
1886.....	1 28	1 05	1 51	1 20	1 78	1 20
1887.....	1 59	1 40	1 87	1 63	2 23	2 00
1888.....	1 05	90	1 30	1 15	1 43	1 25
1889.....	1 01	1 00	1 19	1 20	1 34	1 25
1890.....	89	1 10	1 07	1 25	1 17	1 35
1891.....	84	65	1 02	90	1 11	1 00
1892.....	74	1 00	98	1 15	1 15	1 25
1893.....	56	85	71	1 00	77	1 00
1894.....	46	60	60	80	78	80
1895.....	73	55	92	75	1 13	80
1896.....	52	70	66	95	77	1 05
1897.....	45	45	55	66	57	70
1898.....	51	45	60	60	62	60

## FUTURE OF THE IRON TRADE.

The year 1897 was remarkable in many ways, but perhaps in none more notably than in the unprecedentedly large iron ore traffic, accompanied as it was by the remarkably low freights. The many additions to the large freighters, and the completion of the deep water channel to Lake Superior combined to make this possible. But what of the future? Has the advent of the monster steel carrier crushed the life out of this trade of first importance to the lake marine? It depends upon the future of iron production in this country. For the first time in history the United States is entering the iron markets of the world. There is scarcely a limit to the extent to which iron may be used during the coming years. It is questionable if the domestic consumption can keep pace with the powers of production in the region tributary to the Great Lakes, though there is room for tremendous expansion even here. But the United States is developed in many ways far beyond other countries. It contains over 40 per cent. of all the railways of the world,

and as modern civilization is rapidly penetrating the dark continent of Africa, subduing the ancient civilizations of Asia, and rising to a new elevation in Europe the demand for iron and steel from all quarters of the globe is destined to increase amazingly. It is the plain mission of America to supply these needs. Already she is crowding the iron makers of Europe.

A recent English writer says: "At the present time there is no individual influence that is causing more apprehension as to the future of the iron trade of Great Britain than the growth of American competition. As yet, the danger does not appear to be serious—not at any rate in its actual extent. Probably a large majority of those who have not had the opportunity of studying the conditions have hardly realized that there is any danger. The Carnegie Company alone produces nearly two million tons of pig iron per annum, which is almost as much as the total joint output of Germany, France and Belgium thirty years ago, and more than the total iron output of the United States up to the year 1872. The same works produce annually about a million

tons of Bessemer steel ingots and 650,000 tons of rails—figures which exceed the annual output of all the works in Great Britain up to 1880—and the same firm has lately made arrangements to produce at Homestead about a million tons of open-hearth steel annually, which is more than the total open-hearth steel output of France, Belgium and Germany combined, and considerably more than the total output of this description of steel in the United States, as a whole, up to 1894. And this gigantic corporation does not stand alone. The Illinois Steel Company has also much larger resources of production than any concern in Europe. Of corporations in the second rank, but still important and formidable, the number is legion."

There is every assurance that the supply of iron ore in the Lake Superior region will be adequate to all needs for many years to come, even at a much more rapid rate of mining than that of the present.

D. H. Bacon, in June, 1897, thus expressed in general terms his faith in the future:

"A look at the past may tickle our vanity, but our interests are in the future. Can we maintain the present output? Can we increase it? For how many years can buyers depend upon Lake Superior for their supply? The discovery and quick development of the Mesaba profoundly affected the iron and steel industry of this country, and

the effect may extend beyond our shores. The opening of the Mesaba does not mean idleness on other ranges, but does mean for them greater economies and smaller profits. The new range competes with itself as well as with others. But each era of depression brings a reward in the better methods which are forced upon us, and which, continued into days of prosperity, increase the volume of business and to that extent the profits. With the low prices that are here to remain, it is more than ever difficult to estimate the annual consumption. Speaking of the several ranges as one, the acreage of known ore is but a small part of the area that may contain ore. Discoveries are still being made in the Marquette district, the exhaustion of which was expected twenty years ago. And I may say, in passing, that the known ore under the bed of Lake Angeline is four times as great as was all the known ore in all of the mines of that county at any time prior to 1887. The past few years have not been such as to encourage prospecting; but given favorable conditions, we may confidently depend upon important discoveries. For forty years this region has met all demands; its resources are to-day, as compared with demand, greater than at any time past; and I believe that those who are now active will have stepped aside and will perhaps have been forgotten before this region will fail as an adequate source of supply."

## CHAPTER XXXI.

### MISCELLANEOUS.

INTERNATIONAL FISHERY RELATIONS—FISH CULTURE—WORK OF STATE FISH COMMISSION—THE FISH INDUSTRY IN CANADIAN WATERS—AIDS TO NAVIGATION IN THE PROVINCE OF ONTARIO—CANADIAN DEPARTMENT OF MARINE AND FISHERIES—RECIPROCITY TREATY—INTERNATIONAL FISHERY RELATIONS—METEOROLOGICAL OBSERVATIONS.

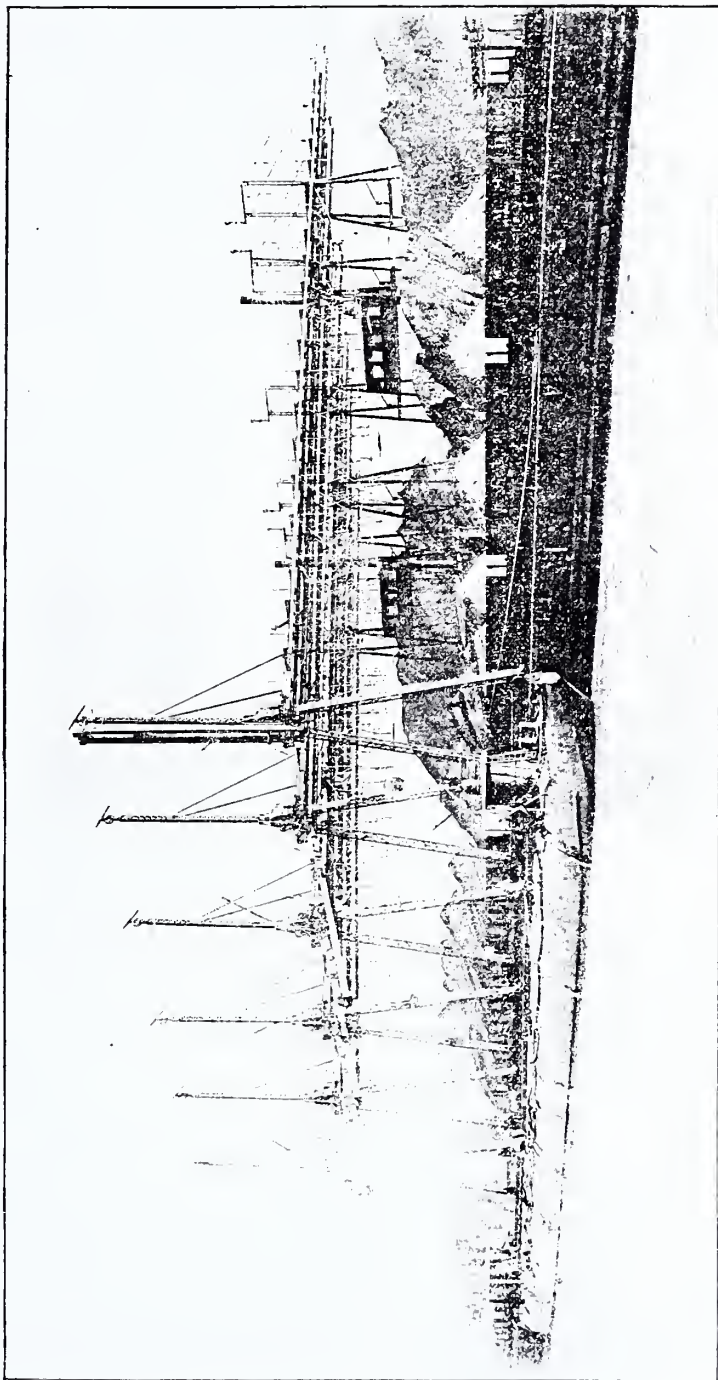
#### INTERNATIONAL FISHERY RELATIONS.

**U**NDER the treaty of 1783 American fishermen enjoyed the liberty of fishing in the territorial waters of the British colonies; but in the treaty of 1818 this liberty was

surrendered by the United States. A subsequent treaty restored the privilege for the period of ten years.

The President of the United States, in 1885, recommended to Congress the appointment of a joint commission for the





WHALERBARK BARGE UNLOADING UNDER CONVEYOR.

The tramways are 309 feet long, and this plant is used for storage as well as unloading into cars.



settlement of the entire fishery question. This recommendation was not favorably entertained by the committee on Foreign Relations of the Senate of the United States, which committee reported April 14, 1886, that "in the opinion of the Senate the appointment of a commission in which the governments of the United States and Great Britain shall be represented, charged with the consideration and settlement of the fishing rights of the two governments, on the coasts of the United States and British North America, ought not to be provided for by Congress." This report was agreed to by a vote of 35 to 10.

The Canadian Government then had no recourse but to fall back on its rights secured by the convention of 1818, and steps were taken immediately to equip a fishery protection force; but the convention of 1818 did not provide for the protection of fishing interests on the Great Lakes.

For some time there was in force a fishery regulation fixing the close season for whitefish and salmon trout in Ontario from November 1 to November 10; but this short time was found inadequate to the full protection of the fish during the spawning season. An Order-in-Council was therefore issued, April 20, 1885, establishing the whole month of November as a close time.

As to the closed seasons it may be further stated that an Order-in-Council was passed May 16, 1879, fixing the close season for pickerel, bass and maskinonge, which was found defective, and a new regulation was passed in 1885, making the close time for pickerel from April 15 to May 15, and for bass and maskinonge from April 15 to June 15.

*Fish Culture.*--According to the best information obtainable the credit for the discovery of fish culture must be given to Stephen Ludwig Jacobi, of Hohenhausen, in Westphalia, who, as early as 1748, carried on successfully experiments in breeding salmon and trout, and in 1771, George III granted to Jacobi a life pension. Upon the estate of Jacobi, by him and by his sons the artificial propagation of fish was carried on as a branch of agriculture, from 1741 to 1825.

In 1850 the French Government established at Huningen the first fish-breeding station, which marks the beginning of public fish culture. The art was introduced into the United States in 1853 and into Canada about 1863.

The first successful attempt to rear whitefish in America by artificial means was made by Samuel Wilmot at Newcastle, Ont., in 1867; large numbers were hatched out, and the young fry were reared in ponds until many of them weighed a pound and upward. Many fish culturists in the United States soon after entered into the business of breeding whitefish.

All the experiments were carried on by the use of pure spring water, as the medium in which the ova were hatched out; but notwithstanding the success met with in the use of this element Mr. Wilmot was impressed with the conviction that original river water should be used in rearing fish artificially, because the fish preferred to deposit their eggs in this kind of water. And as the Detroit river was the great natural spawning ground of whitefish, and the Petite Cote fisheries upon it were a point where a great number of whitefish were usually found during the spawning season, Mr. Wilmot selected that point as the proper place upon which to erect an extensive government establishment for the artificial propagation of whitefish.

The building erected was a large, commodious one, somewhat after the Gothic style of architecture. It was 90x32 feet in size, the first floor being adapted to fish-breeding purposes, and the second floor to dwelling apartments and store rooms.

For some years before 1870 the attention of the governments of Canada and the United States had been directed to the diminution in the quantity of fish in the waters bordering on both countries, as in Lake Erie and Lake Huron. In 1872 the observation was made in the report to the minister of marine and fisheries that while within Canadian jurisdiction established rules controlled the dates and methods of fishing, there were practically no restrictions on the other side, and it was suggested that the States of Michigan and Ohio, New York



and Vermont should unite with Canada to prevent, if possible, the destruction of the fish industry.

But in 1873 it became evident that the the Federal and State governments were co-operating to prevent the destruction of the fish industry, and to restore it where partially destroyed.

In 1875 the Dominion had in practical operation seven establishments devoted to the artificial propagation of fish. These establishments were at Newcastle, Gaspe, Restigouche, Miramichi, Sandwich, Tadousac and Bedford, the latter being on the Sackville river near Halifax.

The trade in fish varies largely. The lake fisheries are a source of considerable wealth. In Sandusky bay, Maumee river, Monroe bay, Detroit river, St. Clair lake and river, and Lake Huron from Port Huron to Port Aux Barques, in Au Sable river, in Thunder bay, including Sugar island, in Saginaw bay and river, in Tawas bay, between Thunder bay and Mackinac, including Hammond's bay, in and about Mackinac, at Beaver island, between the Detour and the Sault, along the western shore of Lake Michigan and Green bay, at Presque Isle, and in Lake Superior numerous bays and islands, are the principal fish grounds of the Great Lakes. In value they are second only to the cod fisheries of the Atlantic coast, and in 1865 the amount of the catch was 100,000 barrels, valued at about \$800,000.

It was only through the scientific work of the State fish commisison that the utter extinction of whitefish has been prevented; but although that commission made heroic efforts to make good the decimation continuously carried on, yet they could not keep pace with the destruction caused by reckless fishing. Nearly 3,000 miles of nets are in use in the commercial fisheries of Michigan, and nearly 5,000 men are employed, taking from the several fisheries of the State 35,000,000 pounds of fish, which has a market value of more than \$1,000,000.

The State fish commission has done much good work since its organization. Previous to that time few of the streams in

the lower peninsula furnished any brook trout below a line running from Petoskey to Saginaw; while now in this peninsula there are considerably more than 1,000 streams distributed through 56 counties which have been stocked by the commission, and in these streams this most valuable of all game fishes may be found in great abundance.

The laws of Ohio with reference to the preservation and propagation of fish appear to be not much better, if any, than those of Michigan. The great difficulty at the present time is with the gill net. A bill was introduced into the Ohio Legislature and passed, which was intended to prohibit gill net fishing in Lake Erie except where the water is 50 feet deep or more; but the word "except" is not now in the statute, and hence fishermen are at liberty to employ gill nets anywhere in the lake. The effect of the error was for a time demoralization in the fish market and competition from Pennsylvania and New York. Besides this a law passed by the Ohio Legislature in the winter of 1895-96 stipulated that twenty-five cents should be paid into the State treasury for every ton of fish caught; but it was stated that fishermen from outside the State ignore the law, at the same time disposing of their fish in the markets of Ohio. But the great necessity is the enactment of a law prohibiting fishing with gill nets, and stringent laws governing the propagation and preservation of fish in Lake Erie.

Even down to 1897 certain wholesale fish dealers in Cleveland, Ohio, were greatly incensed at the needless and wanton slaughter of small fish, the majority of fish sold in the market being smaller than allowed by law, and yet the law was not being enforced.

By the fishermen and dealers all along the southern shores of Lake Erie from Erie to Toledo the work of the various commissions above mentioned was believed to be of great value to the fish industry, and was hence highly approved.

Even down to 1895 unrestricted fishing was still permitted on the American side of the Great Lakes. Still the efforts of the

Canadian Department of Marine and Fisheries to improve the fishing industry by means of certain restrictions upon the fishermen and by enforcing the closed seasons, met with approval. But the enforcement of the regulations affected both Canadian and American fishermen, and with the wanton destruction of fish on the American side of the boundary line there was an increasing tendency to poaching by Americans in Canadian waters. These encroachments made it necessary to maintain an expensive patrol system, leading to the punishment of the guilty parties according to law.

In 1896 the number of vessels and boats and their value, etc., belonging to the Province of Ontario were as follows: For the Lake Superior division—vessels, 11; tonnage, 230; value, \$20,700; boats, 87; value, \$14,000; gill nets, fathoms, 199,900; value, \$32,150; total value of fish caught, \$206,151. For the whole of Lake Huron—vessels, 43; tons, 727; value, \$133,200; boats, 442; value, \$49,685; gill nets, fathoms, 1,584,770; value, \$187,040; pound nets, 85; value, \$23,090; hoop nets, 45; value, \$475; total value of fish caught, \$699,730.60. For Lake St. Clair—boats, 71; value, \$1,850; seines, fathoms, 3,450; value, \$3,490; pound nets, 4; value, \$700; hoop nets, 19; value, \$330; total value of fish caught, \$20,879.40. For the whole of Lake Erie—vessels, 19; tonnage, 566; value, \$56,900; boats, 239; value, \$20,185; gill nets, fathoms, 55,850; value, \$9,230; seines, fathoms, 4,400; value, \$1,535; pound nets, 204; value, \$78,280; value of fish taken in the lake, \$303,086.20. For the whole of Lake Ontario—vessels, 4; tonnage, 133; value, \$10,800; boats, 306; value, \$2,825; gill nets, fathoms, 173,225; value, \$20,165; seines, 1,650; value, \$1,195; pound nets, 3; value, \$1,000; hoop nets, 267; value, \$5,640; value of fish caught in this lake, \$137,529.60.

The total value of the fish caught during 1896 in the lakes was \$1,367,376.

#### AIDS TO NAVIGATION IN THE PROVINCE OF ONTARIO.

The report of the Canadian Department of Marine and Fisheries for 1897 shows

that in that year there were the following aids to navigation in the Province of Ontario: light stations, 184; lights, 235; light ships 3; fog whistles, 2; fog horns, 11; fog bells, 3; bell buoys, 5; gas buoys 2. Besides the above there are four pairs of range lights on the Detroit and St. Clair rivers, maintained by American vessel owners, and 12 wharf lights, maintained by municipalities or corporations.

Gas buoys were in 1896 placed to mark Pelee passage in Lake Erie, and gave great satisfaction to mariners.

Between Point Colborne and Long Point in 1897 some very dangerous and little known shoals and banks were chartered by the Canadian hydrographic surveyor.

The annual expenditures of the Marine Department of Canada increased from \$371,071 in 1868 to \$867,773 in 1897. The largest annual expenditure was \$1,029,901 in 1885. The smallest, \$360,900, in 1869. Only a small proportion of this is applied to the Great Lakes.

#### CANADIAN DEPARTMENT OF MARINE AND FISHERIES.

An Act was passed by the Canadian Legislature in 1868, establishing the Department of Marine and Fisheries. The duties of this department extend to the following subjects: 1. Seacoast and inland fisheries. 2. Trinity houses and trinity ports, pilots and pilotage, and decayed pilots funds. 3. Beacons, buoys, lights and light-houses. 4. Harbors, ports, piers and wharves, steamers and vessels belonging to the government, except vessels of war. 5. Harbor commissioners and harbor masters. 6. Classification of vessels and the granting of certificates to masters and mates. 7. Shipping masters and shipping officers. 8. Inspection of steamboats and ports of steamboat inspection. 9. Inquiries into the causes of shipwrecks. 10. The establishment and management of seamen's hospitals.

An Act was also approved the same year in regard to lighthouses and lights, which had been previously acquired by the government, which Act placed all such light-houses and lights, and beacons and buoys

under the control and management of the Minister of Marine and Fisheries.

Another Act provided that the governor might appoint fishery officers. The Minister of Marine and Fisheries was authorized to issue leases and licenses for fisheries situated and carried on where the exclusive right of fishing did not exist; but leases or licenses for any term exceeding nine years were to be issued only under authority of an order of the governor in council.

Vacant public property might be used by any subject of Her Majesty, such as by law was common and accessory to public rights of fishery and navigation for the purpose of landing, salting, curing and drying fish, and such subject might cut wood thereon for such purpose; and no other person should occupy the same property or site unless it had been abandoned by the original occupant for one year. This same law also provided that salmon should not be fished for, caught or killed between May 1 and July 31, in the Province of Ontario or Quebec, and in the river Restigouche; but the proviso was added that it should not be unlawful to fish for, catch or kill salmon with a rod and line in the manner known as fly-surface-fishing, between the 30th day of April and the 31st day of August in the Province of Ontario or Quebec. The meshes of nets used for capturing salmon were required to be at least five inches in extension.

This department manages the marine police force, and such vessels as are equipped and commissioned for the purpose of protecting the valuable in-shore fisheries, and as the vessels engaged in this service require constant care and supervision.

In 1872 there were managed by the department 251 lighthouses. There was also a lightship at Colchester reef in Lake Erie, which was maintained principally by private subscriptions from owners and masters of vessels.

The division of this department having charge of the lighthouse above Montreal extended from the lighthouse at Lachine on Lake St. Louis to the lighthouse at St. Ignace on Lake Superior, and at that time included 75 lighthouses and four lightships,

besides the one at Colchester. And in addition to the lights managed by the department there was quite a number of harbor lights maintained by the municipal authorities.

The total number of light stations, lightships, and fog alarm stations in the Dominion, June 30, 1895, was 632, and the lights shown were 768 in number. The number of steam whistles and fog horns was 81. In the Province of Ontario the number of lighthouses, lightbeacons, and lightships maintained by the Dominion Government was 224, located at 182 different stations. There were two fog whistles, 11 steam fog horns, and three fog bells, all located at light stations, and four bell buoys.

In addition to the lights, etc., above mentioned, there were also the following aids to navigation in Ontario: Two lights on swing bridges; a system of lights on Murray canal maintained by the Department of Railways and Canals; four pairs of range lights in the Detroit and St. Clair rivers, maintained by American vessel owners; thirteen wharf lights maintained by the municipalities to which the wharves belonged, and two range lights established at Pine Tree harbor, on the west coast of North Bruce.

For the accommodation of the car ferry boats, running the entire year between Port Dover and Conneaut, a second light was established at Port Dover in June, 1897, which in range with the light on the outer end of the west breakwater pier leads to the railway wharf through the best channel.

To increase the safety of large and fast steamers entering Georgian Bay a lighthouse and fog bell was, in 1897, established on the north-easternmost point of Flower Pot island.

#### RECIPROCITY TREATY.

The Reciprocity Treaty between the United States and Great Britain was signed June 5, 1854, by Lord Elgin on the part of the United Kingdom and by William L. Marcy, Secretary of State of the United States under President Pierce. This treaty was negotiated by Lord Elgin, and it went into operation by proclamation of the President



of the United States, on March 16, 1855. It consisted of seven articles, the first two relating to the fisheries, the third to reciprocal trade, and the fourth to the navigation of the St. Lawrence, the fifth to the duration and abrogation of the treaty, the sixth to the extension of its provisions to Newfoundland, and the seventh to the ratification of the treaty itself.

Article third enumerated the articles which might pass from one country to the other without the payment of any duty, such as grain, animals of all kinds, fruits, fish, peltry, eggs, stone, marble, timber, lumber, &c., and the fourth provided that the citizens and inhabitants of the United States should have the right to navigate the river St. Lawrence and the canals of Canada as fully and as freely as the subjects of Her Britannic Majesty, the British Government retaining the right to suspend this article on giving due notice.

Lord Elgin had been at work ever since 1849 to bring about this treaty. Previously it was feared that the tariff of the United States upon imports from Canada was the cause of that feeling in the breasts of Canadians in favor of annexation to the United States. It was in part to counteract this desire that the treaty was procured.

During the operation of the treaty, commerce between the two countries was very largely increased. The increase in the total trade during the decade from 1851 to 1861 was \$31,701,755, and the increase during the first year of the treaty was \$22,142,050.

The object of Canada in granting to the citizens of the United States, in the Reciprocity Treaty of 1854, the privilege of navigating the St. Lawrence river and her canals on the same terms as this privilege was granted to the people of Canada was partly to enlarge the carrying trade of the Provinces, by diverting as large a part of it as possible from American canals and railroads to her own canals and railroads. While American vessels were permitted to navigate the canals of Canada on the same terms as Canadian vessels, yet to American vessels there was no part of the tolls refunded, while to Canadian vessels a consid-

erable portion of the tonnage duties were refunded, in some cases as high as ninety per cent. So that the net result was largely favorable to Canadian vessels. In further aid of this movement the tolls on the St. Lawrence canals were abolished in 1860 and reduced on the Welland canal, but this did not have the effect desired.

The effect of the abrogation of the Reciprocity Treaty of 1854 upon Canada was very great. It caused first the federation of the Provinces, and second the building of the Intercolonial railroad. Then the dispatch of commissioners to the West India islands and to the countries of South America to promote the extension of direct trade with them, and next came the enlargement of the canals of the lakes and of the St. Lawrence river, the construction of the Bay Verte canal to connect the Bay of Fundy with the St. Lawrence river, the subsidizing of ocean and river steamships and the promotion of ship building and the fishery interests.

The following statements show that there was much more of the commerce that passed eastward through the Welland canal destined to American ports than was destined to Canadian ports: In 1861, to Canadian ports, 217,892 tons; American ports, 427,521 tons; in 1862, to Canadian ports, 285,192 tons, and to American ports, 471,521 tons; in 1863, to Canadian ports, 298,436 tons, and to American ports, 441,862 tons.

In the case of the tonnage passing westward the disproportion was during those same three years, much greater: In 1861, to Canadian ports, 10,185 tons, to American ports, 116,240 tons; in 1862, to Canadian ports, 14,908 tons, and to American ports, 171,673 tons; in 1863, to Canadian ports, 67,478 tons, and to American ports, 323,244 tons.

During these three years a very small portion of the commerce passing through the Welland canal found its way through the St. Lawrence canals. Following are the statistics showing the tonnage passing up and down through these canals: In 1861, 16,537 tons; in 1862, 22,691 tons, and in 1863, 22,118.

Such considerations as these were used in the United States to secure the abrogation of the Reciprocity Treaty of 1854, and, together with other considerations, finally secured their object, soon after the close of the war of the Rebellion.

#### METEOROLOGICAL OBSERVATIONS.

In 1870 it was proposed to establish in the United States a system of meteorological observations and telegraph signals between the lake ports at opening of navigation. The number of disasters in 1868 and 1869 largely exceeded the average, and loudly called for a system of this kind, which had been in existence in England and France for some time. The practical operation of weather signals had been observed with great care, and it was believed that much property and many lives had been saved. Under this system the direction of storms was noted, the laws of the winds were becoming known, atmospheric pressure was being recorded, and storms, fine weather, etc., were being predicted with considerable success. Useful maps were publicly shown that had on the height of the barometer, the direction and force of the wind, etc., which were gradually increasing in usefulness, and rising in the appreciation of the people.

By 1874 the Weather Bureau had become an institution of the land, and great reliance was placed on the predictions of "Old Probabilities." The growth of the system had been steady, and its reports of the state of the atmosphere were usually correct.

Until late in the decade of the sixties there was no organized government system of taking meteorological observations and tabulating them for publication in Canada. In 1869 Professor Kingston called the attention of the Hon. Peter Mitchell, Minister of Marine and Fisheries, to the subject, suggesting to him the advisability of taking the steps necessary to obtain from the observatories under his department and the light-houses at distant stations, such as Sable island, St. Paul's island, Belle Isle, and other exposed places, on the seaboard as well as on the lakes, a record at stated

times of the state of the weather, rain, etc., and to have those records forwarded to him for the purpose of inaugurating a system of meteorological observation, and of rendering the data thus obtained of service to men of science and of the sea. On the recommendation of Hon. Peter Mitchell, Parliament voted \$5,000 for the purpose indicated, and the necessary instruments, records and forms were distributed to the stations suggested as proper ones by Professor Kingston.

Early in June, 1871, Professor Kingston, with the sanction of the Hon. Peter Mitchell, Minister of Marine and Fisheries, opened correspondence with the Weather Bureau at Washington, D. C., offering to procure the transmission of weather intelligence from various stations in the Provinces in exchange for similar intelligence to be sent to Canada by the department at Washington. This offer was cordially met, and at length arrangements having been made, was acted upon by both departments.

In 1875 there were 36 stations to which storm warnings were sent, from Toronto, whenever it was thought necessary to send out such warnings. What was meant by a storm warning was this: The publication of an opinion that shortly after a time specified or implied a storm would probably occur in some portion of a certain region within a radius of 100 miles of the port warned. In 1875 80 per cent. of the predictions of storms were verified by the occurrence of storms as predicted.

Since September, 1894, in addition to the original weather forecasts a bulletin has been telegraphed each morning at 10:15 o'clock, to harbor masters and other suitable persons, at the principal ports on the Great Lakes, and in the Maritime Provinces, these bulletins containing a forecast of the force and direction of the wind for the next 36 hours, and also at times when it was thought advisable a general statement of the probable movement of storms. These bulletins have since been posted up at Port Arthur, Sault Ste. Marie, Collingwood, Owen Sound, Sarnia, Amherstburg, Port Colborne, Port Dalhousie, Hamilton, Toronto, Kingston, and in numerous places

in the Maritime Provinces. They are recognized as of great use to navigators, preventing them often from going out of port in immediate advance of a storm.

The year 1876 marked a new era in the meteorological service in Canada, for previous to this time no daily forecasts had been issued, the service depending as stated above on the signal office at Washington for all storm warnings. Early in 1876 arrangements were made with the chief signal officer at Washington, by which a considerable number of telegraphic reports were

handed three times each day to an agent of the Toronto office at Buffalo, New York, and telegraphed by this agent to Toronto. Later in the year, after an interview with the chief signal officer at Washington, arrangements were completed by which additional reports were furnished daily, and forwarded direct from New York. Daily forecasts of the weather, based on these reports, together with those from stations in Canada were issued by the Toronto office, and also storm warnings when considered necessary.



## CHRONOLOGY.

### CHAPTER XXXII.

#### THE BEGINNINGS.

#### BRIEF REVIEW OF EVENTS FROM THE PERIOD OF FRENCH DISCOVERY TO THE CLOSE OF THE WAR OF 1812.

Cease, rude Boreas, blustering railer!  
List ye landsmen, all to me;  
Messmates, hear a brother sailor  
Sing the dangers of the sea.

*The Storm.*

**I**N preceding chapters the chief events of lake history, from the period of French discovery to the beginning of modern commerce, succeeding the war of 1812, have been narrated. The chronology of the lakes becomes a matter of greater detail as this inland traffic gradually expands, and the following pages will chronicle the more important events which have occurred since the lakes became the highway for great commercial purposes. Preliminary to this chronology, a brief review of the earlier history is presented.

In the sixteenth century the St. Lawrence river was discovered and navigated by French adventurers. In the seventeenth

century the system of the Great Lakes was discovered and occupied by the same nation. During the eighteenth century there was a constant struggle for the control of these vast inland seas, and, when the war of 1812 ended, their shores were rapidly populated. Commerce properly began with that permanent settlement. Briefly, then, the preparatory events were as follows:

#### SIXTEENTH CENTURY.

1520—Brest established by the French as a fishing station on the straits of Belle Isle; about this year Portuguese also explored the region of the mouth of the St. Lawrence river.

1524—Verrazano, a French explorer, visited the region of the St. Lawrence river and concluded that an immense continent lay to the west.

1534—May 10, Cartier, sent by King



Frances I of France, arrived off Newfoundland. May 27, Cartier reached the straits of Belle Isle. July 2, Cartier reached and named the Bay of Chaleur.

1535—Cartier, on his second voyage, reached and named Assumption island, August 15, and discovered the mouth of the St. Lawrence river. September 1, reached the mouth of the Saguenay river. October 2, reached Hochelaga, near Mont Royale, now Montreal.

1541—Cartier made his third voyage to the St. Lawrence river.

1600—Pontgrave attempted colonization and failed.

#### SEVENTEENTH CENTURY.

1603—June 7, Champlain started on an exploration of the Saguenay river. About this time he first heard of the "Immense Sea of Salt Water" to the west.

1615—Lake Huron discovered by Le Caron, the Recollect friar, and by Champlain, the great navigator. Lake Ontario discovered later in the same year by Champlain.

1629—Lake Superior discovered by Champlain's interpreter, Etienne Brulé, during this year or earlier.

1634—Lake Michigan discovered by Jean Nicolet, an employe of a French fur trading company. He visited Green Bay.

1641—Raymbault and Jogues, two missionaries, traversed Lake Superior in search of a passage to China.

1648—Iroquois destroyed Huron missions near Lake Huron.

1660—Menard, the missionary, searched for the Hurons on the Lake Superior region.

1665—Allouez established an Indian mission at La Pointe.

1668—Marquette established an Indian mission at Sault Ste. Marie.

1669—Lake Erie probably discovered by Joliet. Allouez established an Indian mission at Green Bay.

1670—First recorded passage through Detroit river, made by Sulpitian priests.

1671—Marquette founded the mission of St. Ignace at the Straits of Mackinac. Rude fort erected at Mackinac. St. Lussou,

in behalf of Louis XIV, of France, takes formal possession of the Great Lakes at St. Mary's Falls.

1673—Joliet and Marquette discovered the Mississippi. Fort Frontenac erected by LaSalle on the present site of Kingston, Ontario.

1678—La Salle built the little bark Frontenac, on Lake Ontario, the first vessel on the Great Lakes.

1679—Schooner Griffin, the first vessel on Lake Erie, launched on the Upper Niagara river in June, entered Lake Erie August 7, encountered a severe storm on Lake Huron, reached Green Bay early in September. Loss of the Griffin on her return trip.

1684—Governor De la Barre, of New France, attempted to crush the Iroquois.

1686—Duluth built a French fort at St. Joseph, on the St. Clair river, the site of Fort Gratiot. English traders visited Mackinaw.

1687—French capture two English trading parties on Lake Huron. French expedition against the Iroquois met with defeat. Fort Niagara built by the French.

1688—Fort St. Joseph burned and abandoned by the French. Fort Niagara abandoned by the French. Fort Frontenac destroyed. French temporarily lost command of the Great Lakes.

1694—Fort Frontenac rebuilt by the French.

#### EIGHTEENTH CENTURY.

1701—French fort erected at Detroit by Cadillac.

1703—French fort at Detroit partially destroyed by Indians.

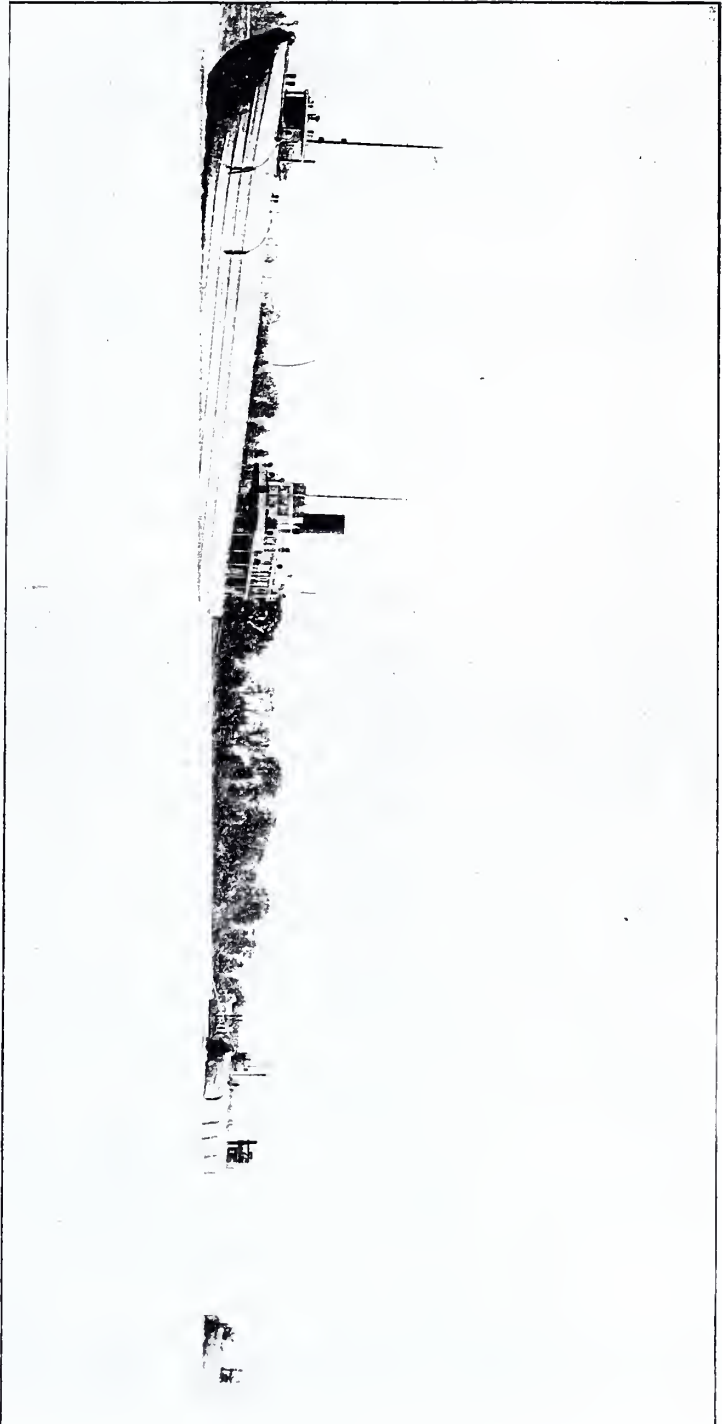
1718—French fort at Detroit rebuilt by Tonti.

1720—Governor Burnett, of New York, began the erection of a trading post at Oswego. New York Legislature prohibited New York merchants from trading with Canada for furs.

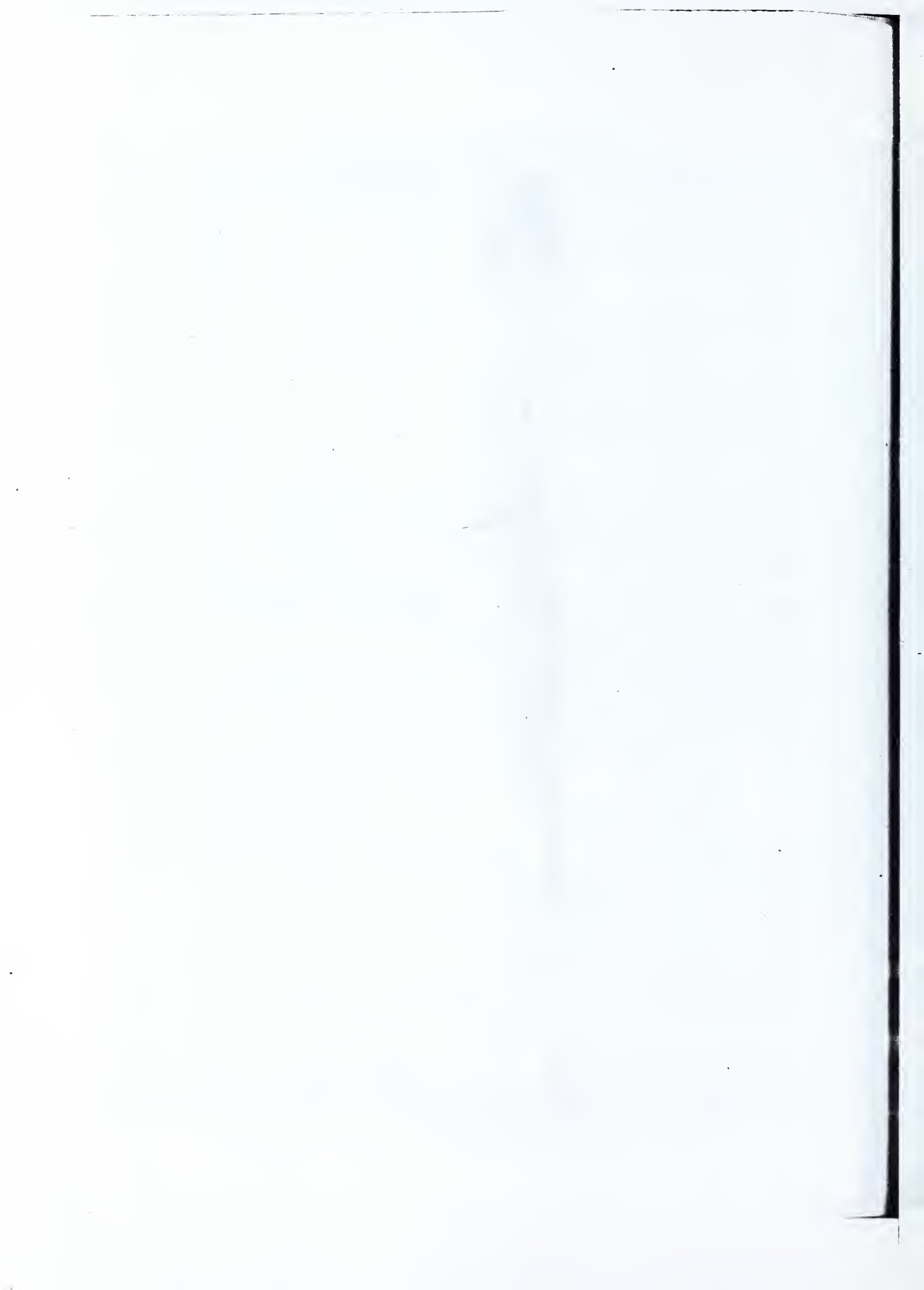
1725—French rebuilt Fort Niagara.

1726—English launched two vessels at Oswego.

1747—French fortify scattered posts from Lake Ontario to Lake Superior.



A WHALEBACK TOW.





1750—Little Fort Niagara, one and one-half miles above Niagara Falls, completed by the French.

1755—English built two sloops, the Oswego and the Ontario, at Oswego, besides several other boats. French fortify and strengthen their lake forts.

1756—French captured Oswego, six sloops of war, 100 boats and large munitions of war.

1758—Colonel Bradstreet captured Fort Frontenac, and with it seven vessels.

1759—Fort Niagara surrendered to the English, who thereby secured control of Lakes Erie and Ontario.

1760—Major Rogers took possession of Detroit.

1761—English took the French posts at Mackinac, St. Mary's, Green Bay and St. Joseph's and gained control of the entire lake region.

1762—English built at Detroit the schooners Beaver and Gladwyn.

1763—Pontiac's conspiracy against the English. Fall of Fort Sandusky, May 16. Indians captured St. Joseph's Fort, May 25. Massacre at Mackinaw, June 4. English post at St. Mary's and at Green Bay abandoned. Presqu' Isle surrendered, June 17. Detroit invested by Pontiac's Indians. Gallant service aboard the small armed schooners Beaver and Gladwyn. Beaver wrecked at Cat Fish creek, 14 miles from Buffalo, August 28. Massacre at Devil's Hole, Niagara river, September 14.

The New York *Mercury* of 1763 says: "There are five brigs from 30 to 80 tons, and 18 armed flush-decked cutters on Lake Ontario. The navigation of that lake will soon equal for trade that of the Caspian Sea."

1764—Sir William Johnson attempted to pacify the savages. Bradstreet relieved Detroit. Captain Howard regained Mackinaw, and English detachments reoccupy Green Bay and St. Mary's. Great Britain again in complete control of the lakes. Three new vessels built, the Victory, the Boston and the Royal Charlotte.

1766—English fur trade at Mackinaw began, and extended rapidly.

1767—The Brunswick launched.

1769—The Enterprise built at Detroit. Sloop Betsey launched.

1770—The Charity, of 70 tons, launched at Niagara.

1771—The Chippewa, Lady Charlotte and Beaver 2nd launched. Beaver 2nd lost near Sandusky in May with her entire crew of 17 men. Schooner Hope, 81 tons, built at Detroit; Sloop Angelica, 66 tons, built at Detroit.

1772—Sloop launched on Lake Superior by the English trader Henry and others in an attempt to develop copper mining. British brig-of-war General Gage, 154 tons, built at Detroit. Schooner Dunmore, 106 tons, built at Detroit.

1774—The Lake Superior sloop sold by Henry to fur traders. Sloop Felicity, 55 tons, and Schooner Faith, 61 tons, built at Detroit.

1776—Sloop Adventure, 34 tons, built at Detroit.

1779—Sloop Wyandotte, 47 tons, built at Detroit.

1780—British schooner Ontario, probably built several years earlier, lost during a fearful gale between Niagara and Oswego, with 172 English soldiers. The Ontario carried 22 guns, and was commanded by Captain Andrews. The soldiers lost were a detachment of the King's Own Regiment, commanded by Colonel Burton.

1781—Spanish detachment from St. Louis captured St. Joseph (the British garrison retreating to Detroit), and fly the flag of Spain over Lake Michigan. The Spaniards, fearing an attack from Detroit, retired to the Mississippi a few days later.

1783—By treaty the boundary between Canada and the United States established along the middle of the chain of Great Lakes. Northwest Fur Company organized at Quebec, and established posts at various points on the upper lakes.

1784—Northwest Fur Company built at Detroit the schooner Beaver, 34-foot keel, 13-foot beam and 4-foot hold.

1785—Unsuccessful attempt to take the Beaver up St. Mary's Falls.

1789—Hudson Bay Company owned a vessel called the Speedwell on Lake Superior, and others on Lake Ontario. John

Fellows, of Massachusetts, crossed Lake Ontario in the first American boat on the Great Lakes, with tea and tobacco.

1792—English merchantman, the York, constructed at York. A vessel named the Missisaga, sailed on Lake Ontario that year.

1793—English vessels on Lake Ontario included the armed schooner Onondaga, the Lady Dorchester, 87 tons, Mohawk, Caldwell and Buffalo.

1795—The Sophia was a quick-sailing vessel on Lake Ontario. Captain Lee, of Chippewa, owned the only boat on the south side of Lake Erie, a small vessel, name unknown.

1796—Great Britain surrendered to the United States the posts at Oswego, Lewiston, Schlosser, Miami, Detroit and Mackinaw. At Detroit this year there were owned 12 merchant vessels, and several sloops, brigs and schooners of from 50 to 100 tons each. British built a fort on the island of St. Joseph, 20 miles above Detroit. Schooner Swan first vessel to float the stars and stripes on Lake Erie. Erie Packet sailed on Lake Erie.

1797—Canadian vessel, Governor Simcoe, 87 tons, owned by the Northwest Company, sailed on Lake Ontario. Sloop Detroit wrecked near Erie. American schooner Wilkinson, 80 tons, built at Detroit.

1798—The *Jemima* built at Hanford's Landing, below Rochester. Sloop *Weazel* sailed on Lake Erie. Sloop *Washington*, 36 tons, launched near Erie.

1799—The York wrecked in November, on a rock off the Devil's Nose. *Genesee* and *Peggy* sailed between Oswego and Niagara. *Good Intent*, 30 tons, built at Mill Creek.

1800—This year there sailed on Lakes Erie, Huron and Michigan the schooners *Nancy*, 94 tons, and *Swan*, and the sloops *Sagima*, Detroit, Beaver, Industry, *Speedwell* and *Arabaska*; on Lake Superior, the sloop *Otter*. The *Harlequin* built at Erie was lost during her first season with all on board.

#### NINETEENTH CENTURY.

1801—1810.

1802—The United States Government built at Detroit the brig *Adams*, 100 tons,

and the schooner *Tracy*, 53 tons. The *Tracy* was stranded and lost on the reef off Fort Erie.

1803—The *Lady Washington* built near Erie in 1797, lost in a gale near Oswego, November 24.

1804—The Canadian schooner *Speedy* left Niagara for Presque Isle October 7, and was wrecked in a fierce gale the next day with all on board, about 20 souls, including a number of passengers. Fort Dearborn built at Chicago.

1805—Niagara portage established at Black Rock by Porter, Barton & Co. Schooner *Surprise*, the first vessel built at Buffalo, constructed about this year.

1806—The *Good Intent* lost at Point Abino with all on board.

1808—Act for the construction of a lighthouse on Gibraltar Point, Lake Ontario, passed by the Upper Canada Assembly. Schooner *Zephyr*, 45 tons burden, built at Cleveland. John Jacob Astor established the American Fur Company.

1809—*Dalhousie*, first steamer on the St. Lawrence, built at Prescott, Canada.

1810—Schooner *Charles and Ann*, built at Oswego, attracted considerable attention on account of her size.

#### 1811.

September 30—Schooner *Salina* arrived at Buffalo in command of Captain Dobbins, with a cargo of furs valued at \$150,000. October 11—Capt. Oliver Luther, Captain White and Nathan Pitney drowned from the schooner *Ranger*, bound from Detroit to Black Rock. October 20—A severe storm on the St. Lawrence river resulted in great damage to shipping interests of the lakes. November 1—Sloop *Commencement* damaged during a storm on Lake Erie. Schooner *Amelia* ashore near the mouth of the Cuyahoga river. Schooners *Catherine* and *Mary* sustain injuries on Lake Erie. December 24—Ships *Gates* and *Ann* ashore at Governor's island.

#### 1812.

March 14—Severe storm on Lake Erie, doing much damage to shipping at several ports. May—British schooners *Lord Nel-*

son, Ontario and Niagara captured on Lake Ontario. American schooners *Sophia* and *Island Packet* captured and burned. July 2—American schooner *Cuyahoga* captured at Malden. July 13—Schooners *Salina* and *Mary* in command of Captain Dobbins and Captain Rouff, respectively, captured by the British at Mackinac. Fall of Mackinac. July 29—British fleet driven from Sacket's Harbor. August 15—Massacre at Fort Dearborn. August 16—Hull surrendered Detroit. Schooner *Lady Murray* (British) captured by the United States schooner *Lady of the Lake* on Lake Ontario. September 9—Capt. William Brown, aged 28 years, killed on his boat, lying off Buffalo creek. October—Lieutenant Elliott captured the British brigs *Detroit* and *Caledonia* at Black Rock. Schooner *Lady Murray* captured by the *Royal George* near the Genesee river. October 20—Captain Dobbins, of Erie, received orders from the government to build four gunboats on Lake Erie. November 11—British vessel *Simcoe* sunk on Lake Ontario. Schooner *James Madison* launched, November 26, at Sacket's Harbor. British vessels *Earl Moira* and *Prince Regent* captured by the Americans on Lake Erie.

1813.

June 6—United States vessel *Caledonia* collided with a small boat near Black Rock, resulting in the drowning of five men. Ship *General Pike* launched June 13 at Sacket's Harbor. August 8 to 11—Naval engagements on Lake Ontario between Chauncey and Yeo. Schooners *General Hamilton* and *Scourge*, the latter in command of Captain Osgood, lost on Lake Ontario, during a severe gale. Many lives lost. British capture the American schooners *Julia* and *Growler* on Lake Ontario. September 10—Battle of Lake Erie. September 11 and 28—Two partial engagements on Lake On-

tario between Chauncey and Yeo. October 7—Commodore Chauncey captured on Lake Ontario the five British schooners, *Mary*, *Drummond*, *Lady Gore*, *Confiance* and *Hamilton*, with from one to three guns on each. The last two were the *Julia* and *Growler*, renamed. October 12—Schooner *Chippewa*, in command of Capt. R. S. Tateun, ashore near Buffalo creek. She was captured from the British September 10, and was engaged in bringing the baggage of the 27th and 28th Regiments United States Infantry from Put-in-Bay. October 25—Sloop *Little Belt* ashore near Buffalo during a storm. October 26—Schooners *Ariel* and *Trippe* ashore on the south shore of Lake Erie. October 27—Snow one foot deep at Erie, greatly obstructing navigation. December 19—The British capture Niagara and burn the *Ariel*, *Little Belt*, *Chippewa* and *Trippe*.

1814.

April 15—*Prince Regent*, 1,450 tons, and *Princess Charlotte*, 1,215 tons, launched at Kingston. April 19, ice disappeared on Lake Erie and navigation opened. May—Yeo captured Oswego. Americans captured a squadron of 19 British boats on Lake Ontario. June—American brig *Magnet* burned by her crew near the head of Lake Ontario, to avoid capture. July—Fleet sailed from Detroit against Mackinaw. Northwest Company's schooner *Mink* captured. Schooner *Perseverance* captured at the foot of Lake Superior, and scuttled. August—British schooner *Nancy* captured in the Nautawasaga river. September 3—British captured the *Tigress* and September 5 the *Scorpion*, both near the Sault. October 2—*St. Lawrence* launched at Kingston. December 5—Navigation closed at most lake ports. December 26—Frigate *Psyche* launched at Kingston.



## CHAPTER XXXIII.

### AFTER THE WAR OF 1812.

BUILDING OF WAR VESSELS IN 1815—THE BUILDING OF THE FRONTENAC, A CANADIAN STEAMER—OTHER EVENTS OF 1815—THE FIRST STEAMER ON LAKE ONTARIO—A MONOPOLY OF STEAM NAVIGATION ON LAKE ONTARIO—WAREHOUSE AT BLACK ROCK—OTHER EVENTS OF 1816—STEAM NAVIGATION BEGINS, 1817—FIRST TRIP OF THE FRONTENAC—AN ADVENTURE ON LAKE ERIE—OTHER EVENTS OF 1817—THE MEMORABLE WALK-IN-THE-WATER, 1818—WRECK OF THE HERCULES—OTHER EVENTS OF 1818—WALK-IN-THE-WATER IN 1819—OTHER EVENTS OF THAT YEAR—SCHOOLCRAFT'S TRIP IN 1820—THE GOVERNOR CASS EXPEDITION—OTHER EVENTS OF 1820.

SOON after the close of the war of 1812 the straggling and struggling commerce of early years was revived, and speedily attained a vigorous growth. Ship-building sprang up at many ports, vessels multiplied, trade grew proportionately, and modern lake history may be said to have had a commencement. In the following pages are noted chronologically the principal events of the Great Lakes, gleaned from many sources.

1815.

*Last Year of the War.*—At the beginning of 1815, war was still active in the region of the Great Lakes. At Sacket's Harbor, January 5, six hundred ship carpenters were at work on boats under the direction of Mr. Brown.

In 1815 Porter, Barton & Co. built a warehouse at Black Rock, nearly opposite where the Queen City mills afterward stood.

*The building of the Frontenac*, a Canadian steamer, was begun in October, 1815, advertisements having been published asking for tenders to build the boat. These advertisements were answered by two parties—one a Scotchman named Bruce, of Montreal, the other being Henry Teabout, of Sacket's Harbor. After some little delay in considering the propositions, that of the latter was accepted. Mr. Teabout, who was making his bid for a company of which

he was a member, after a couple of days spent in looking around for a proper site, selected Finkle's Point in consequence of the gravelly nature of the shore. Mr. Teabout was thoroughly qualified to build this boat, having served his apprenticeship with that remarkable man, Henry Eckford, who built the American fleet of vessels at Sacket's Harbor during the war of 1812. The other members of his company were James Chapman and William Smith. This ship-building firm had then recently built at Sacket's Harbor a vessel named the Kingston, which was the only craft plying between Kingston and Sacket's Harbor, and they had also built a fine schooner named the Woolsey.

*Other Events of 1815.*—May 23: Waters of Lake Erie the highest ever reported. July 17: Brig Caledonia and schooner Amelia go to Erie for rebuild. August 10: Schooner Lady of the Lake ashore near Cleveland during a gale. Cargo seriously damaged. Boat condemned for repair, and towed to Cleveland for rebuild. September 2: Schooner Tecumseh severely damaged during a storm near Point Albino. October 25: Schooner Julia in command of Captain Wilkinson, and owned by Capt. O. Coit, ashore while attempting to enter Buffalo creek in a storm. Schooner Weazel ashore near Buffalo. November 10: Schooner Experiment in command of Captain Lovejoy, ashore near Long Point. December 31:

Sixty-four arrivals and clearances at Buffalo harbor during the season.

1816.

*The First Steamer on Lake Ontario.*—

In the summer of 1816, the side-wheel steamer Ontario was built at Sacket's Harbor, but did not go into service until April of the following year. This was the first steamer on the lakes, the Frontinac coming out, at about the same time, on the Canadian side. The Ontario measured 232 tons and had beam engines and 34-inch cylinders of 4-foot stroke.

According to the *Kingston Gazette*: "On Saturday, September 7, 1816, the steamboat Frontenac was launched at the village of Ernetts town. A numerous concourse of people assembled on the occasion; but in consequence of an approaching shower a portion of the spectators withdrew before the launch actually took place. The boat moved slowly from her place and descended with majestic sweep into her proper element.

"The length of the keel of this boat was 150 feet, the length of her deck, 170 feet, and her tonnage about 700 tons. Her proportions struck the eye very agreeably, and good judges pronounced her to be the best specimen of naval architecture that had ever proceeded from an American [Canadian] shipyard."

After giving the above account the *Gazette* says: "A steamboat was lately launched at Sacket's Harbor. The opposite sides of the lake, which not long ago vied with each other in building ships of war, seem now to be equally emulous of commercial superiority." From this it would appear that the Frontenac was the second steamboat built on the Great Lakes, the one built at Sacket's Harbor, named the Ontario, and mentioned above, being the first.

The application of steam to navigation had already assumed importance on the Hudson and other waters.

*A Monopoly of Steam Navigation on Lake Ontario.*—The subject having been investigated in the summer and fall of 1815, articles of agreement were drawn up early in

1816, between Harriet Fulton and William Cutting, N. Y., executors of Robert Fulton and Robert R. Livingston, and Edward P. Livingston, of Clermont, owners of the right and privilege of steamboat navigation in the State of New York, by special Act of the Legislature, on the one hand, and Charles Smyth, Joseph C. Yates, Thomas C. Duane and David Boyd, on the other hand, by which the latter acquired the sole right to navigate boats or vessels (steamships and vessels of war excepted) by steam on all or any of the waters of Lake Ontario, within the State of New York, and the full and entire and exclusive right of employing in the navigation of the same waters such inventions and improvements in the navigation of boats by fire or steam, to which the grantors or any of them had or thereafter might have right or title by patent.

It was provided and stipulated that but one boat should be employed at a time on any route to be established on the said waters by virtue of this contract without the consent in writing of the grantors, and until the net proceeds of the same should or said one boat should exceed 20 per cent. per annum. One boat was required to be built within two years. The grantees paid \$10 on the execution of this agreement, and covenanted to pay annually on the 1st of January (deducting \$1,500 from the gross receipts of each year, and the current expenses of running the boat) one-half of all moneys received above 12 per cent. on the investment. The \$1,500 was to be withdrawn annually until it should amount to \$12,000, which sum was to constitute a sinking fund for re-building the boat. Should the grantees acquire from the British Government any privileges for the navigation of the lake, these privileges were to be shared equally between the contracting parties, and these privileges were not to be transferred. Application was to be made for the incorporation of an association to be styled the Ontario Steamboat Company with a capital of \$200,000.

In February, 1816, a petition from Charles Smyth, David Boyd, Eri Lusher, Abraham Santvrod, John J. De Graff and their associates was granted, in which the

essential facts above stated were given, and an Act of incorporation solicited. A Bill was prepared and passed the House by a vote of 76 to 40, but did not become a law in consequence of the early adjournment of the Legislature. On the 16th of August, same year, Eri Lusher and Charles Smyth became by assignment of De Graff and Boyd, partners in the enterprise, and a boat was commenced at Sacket's Harbor the same summer, after the model of the Sea Horse, then running in the Sound near New York. She was 110 feet long, 24 feet wide and 8 feet deep, and of 237 tons burden. The boilers are said to have been 17 feet long and  $3\frac{1}{2}$  feet in diameter, with a cross-head engine. The cylinder was 20 inches in diameter and 3-feet stroke; the wheels were 11 feet 4 inches across, and the engine was of 21-horse power.

*Warehouse at Black Rock.*—In March, 1816, the forwarding and commission house of Sill, Thompson & Co., took possession of the warehouse built the previous year at Black Rock. This one warehouse furnished ample storage for all property required to be put under shelter, going to or coming from the West, during all that time; and the company owning it and transacting all the business was called an "overgrown monopoly." As much business is transacted in a single day now as was then transacted in an entire season.

*Other Events of 1816.*—May 14: Ice disappears at several Lake Erie ports. Navigation open at Ogdensburg. June 11: Schooner Erie, 80 tons, launched at Black Rock. Owned by Col. J. Thomas and William Miller, and built by Capt. Asa Stanard. July 23: Brig Union, in command of Capt. James Beard, aground near Grosse Ile; released July 24. July 24: Captain Alien drowned at Erie. September 7: Steamboat Frontenac launched at Ernettsown, Lake Ontario. Keel 150 feet long; leek 170 feet long. December 31: Eighty arrivals and clearances at the port of Buffalo during the year.

The schooner Washington, in command of Capt. Daniel Dobbins, made a voyage in 1816 to Green Bay, as a government transport to convey troops to estab-

lish Ford Howard. At this time Captain Dobbins discovered and anchored in Washington harbor at the entrance of the bay, the schooner Washington being the first vessel that ever entered it.

During the year 1816, and the three following seasons, there were plying on the British side of Lake Ontario, between Fort George (now Niagara) and York (Toronto) the schooners Crazy Jane, Catherine and Asp, transporting passengers and freight.

1817.

*Steam Navigation Begins.*—The steamer Ontario made her first trip in April, 1817. The Ontario was the first steam vessel ever placed on water subject to a swell, and hence the real meaning of her being built to "test the power of steam against wind and wave." She was built under a grant from the heirs of Robert Fulton, and marks an important era in steam navigation. Previous to her construction steam navigation had been confined to rivers, and the mere weight of the paddle wheels and shaft was relied on as sufficient to keep them in place on their bearings. It was on this plan that the Ontario was constructed, because it was not known that any other plan would be necessary; but on her first trip she encountered considerable sea, and the waves lifted her paddle wheels off their bearings, causing the revolving wheels to tear away their wooden coverings. The Ontario was taken back into port disabled, but her repairs included a proper device for securely holding the shaft in its place.

Early in 1817 the steamer Ontario was completed and started on her first trip, being everywhere greeted with the most lively demonstrations of joy. Bonfires, illuminations, and mutual congratulations of friends expressed the satisfaction with which this achievement was regarded, and the event was hailed as the opening up of a new era in commerce on the lakes. Weekly trips from Ogdensburg to Lewiston were at first attempted, but on July 1, 1817, the owners of the steamboat advertised that, finding the trip of above 600 miles too extensive to be performed within that time, it would be changed to once in ten days. The



fare through was fixed at \$15. Capt. Francis Mallaby, U. S. N., was her first master. The Ontario continued to run until 1832, seldom exceeding five miles per hour. In the year last named she was broken up in Oswego.

*First Trip of the Frontenac.*—On June 5, 1817, the Frontenac left Kingston for her first trip to the head of the lake. She was 500 tons burden, and the first Canadian steamer on the lakes. She had no guards, except at her wheels. She carried three masts, was painted black and presented much the appearance of an ocean steamer, but carried no yards. Her deck was 170 feet long, her breadth being 32 feet. She cost in the neighborhood of £20,000. Capt. James McKenzie, a retired officer of the Royal Navy, was her commander. She began her trips in 1817. At first Captain McKenzie was not over-confident of his vessel, for advertisements were thus qualified: "The steamer, Frontenac, will sail from Kingston for Niagara, calling at York, on the 1st and 15th days of each month, with as much punctuality as the nature of lake navigation will admit of." But, later on, becoming familiar with his boat, he became more confident, and announced his days of departure with greater precision.

*An Adventure on Lake Erie.*—The adventure of Salmon Sweatland, of Conneaut, who crossed Lake Erie in an open canoe, in September, 1817, is one of unusual interest. He had been accustomed, with the aid of a neighbor, Mr. Cousins, and a few hounds, to drive deer into the lake, where, pursuing them in a canoe, he shot them with but little difficulty. The circumstances which took place at this time, are vividly given in the annexed extract from the records of the Historical Society, published in Howe's "Historical Collections of Ohio:"

"It was a lovely morning in early autumn, and Sweatland, in anticipation of his favorite sport, had risen at the first dawn of light, and without putting on his coat or waistcoat left his cabin, listening in the meantime in expectation of the approach of the dogs. His patience was not put to a severe trial ere his ears were saluted by the deep baying of the hounds, and on arriving

at the beach he perceived that the deer had already taken to the lake, and was moving at some distance from the shore. In the enthusiasm of the moment he threw his hat upon the beach, his canoe was put in requisition and shoving from the shore he was soon engaged in rapid and animated pursuit. The wind, which had been fresh from the south during the night and gradually increasing, was now blowing nearly a gale, but intent on securing his prize, Sweatland was not in a situation to yield to the dictates of prudence. The deer, which was a vigorous animal of its kind, hoisted its flag of defiance, and breasting the waves stoutly showed that in a race with a log canoe and a single paddle he was not easily outdone.

"Sweatland had attained a considerable distance from the shore and encountered a heavy sea before overtaking the animal, but was not apprised of the eminent peril of his situation, until, shooting past him, the deer turned towards the shore. He was, however, brought to a full appreciation of his danger when, on tacking his frail vessel and heading towards the land, he found that with his utmost exertions he could make no progress in the desired direction, but was continually drifting further to sea. He had been observed in his outward progress by Mr. Cousins, who had arrived immediately after the hounds, and by his own family, and as he disappeared from sight, considerable apprehensions were entertained for his safety.

"The alarm was soon given in the neighborhood, and it was decided by those competent to judge that his return would be impossible, and that unless help could be afforded he was doomed to perish at sea. Actuated by those generous impulses that often induce men to peril their own lives to preserve those of others, Messrs. Gilbert, Cousins and Belden took a light boat at the mouth of the creek and proceeded in search of the wanderer, with the determination to make every effort for his relief. They met the deer returning toward the shore nearly exhausted, but the man who was the object of their solicitude was nowhere to be seen. They made stretches off shore within prob-

able range of the fugitive for some hours, until they had gained a distance of five or six miles from land, when meeting with a sea in which they judged it impossible for a canoe to live, they abandoned the search, returned with difficulty to the shore, and Sweatland was given up for lost.

"The canoe in which he was embarked was dug from a large white-wood log for a fishing boat; it was about fourteen feet in length and rather wide in proportion, and was considered a superior one of the kind. Sweatland continued to lie off, still heading toward the land, with the faint hope that the wind might abate, or that aid might reach him from the shore. One or two schooners were in sight in course of the day, and he made every signal in his power to attract their attention, but without success.

"Fortunately Sweatland possessed a cool head and a stout heart, which, united with a tolerable share of physical strength and power of endurance, eminently qualified him for the part he was to act in this emergency. He was a good sailor, and as such would not yield to despondency until the last expedient had been exhausted. One only expedient remained, that of putting before the wind and endeavoring to reach the Canadian shore, a distance of about fifty miles. This he resolved to embrace as his forlorn hope.

"It was now blowing a gale, and the sea was increasing as he proceeded from the shore, and yet he was borne onwards over the waters by a power that no human agency could control. He was obliged to stand erect, moving cautiously from one extremity to the other, in order to trim his vessel to the waves, well aware that a single lost stroke of the paddle or tottering movement, would swamp his frail bark and bring his adventure to a final close. Much of his attention was likewise required in bailing his canoe from the water, an operation which he was obliged to perform by making use of his shoes, a substantial pair of stog-gies, that happened fortunately to be upon his feet.

"Hitherto he had been blessed with the cheerful light of heaven, and amidst all his perils could say, 'The light is sweet, and it is a pleasant thing for the eyes to behold

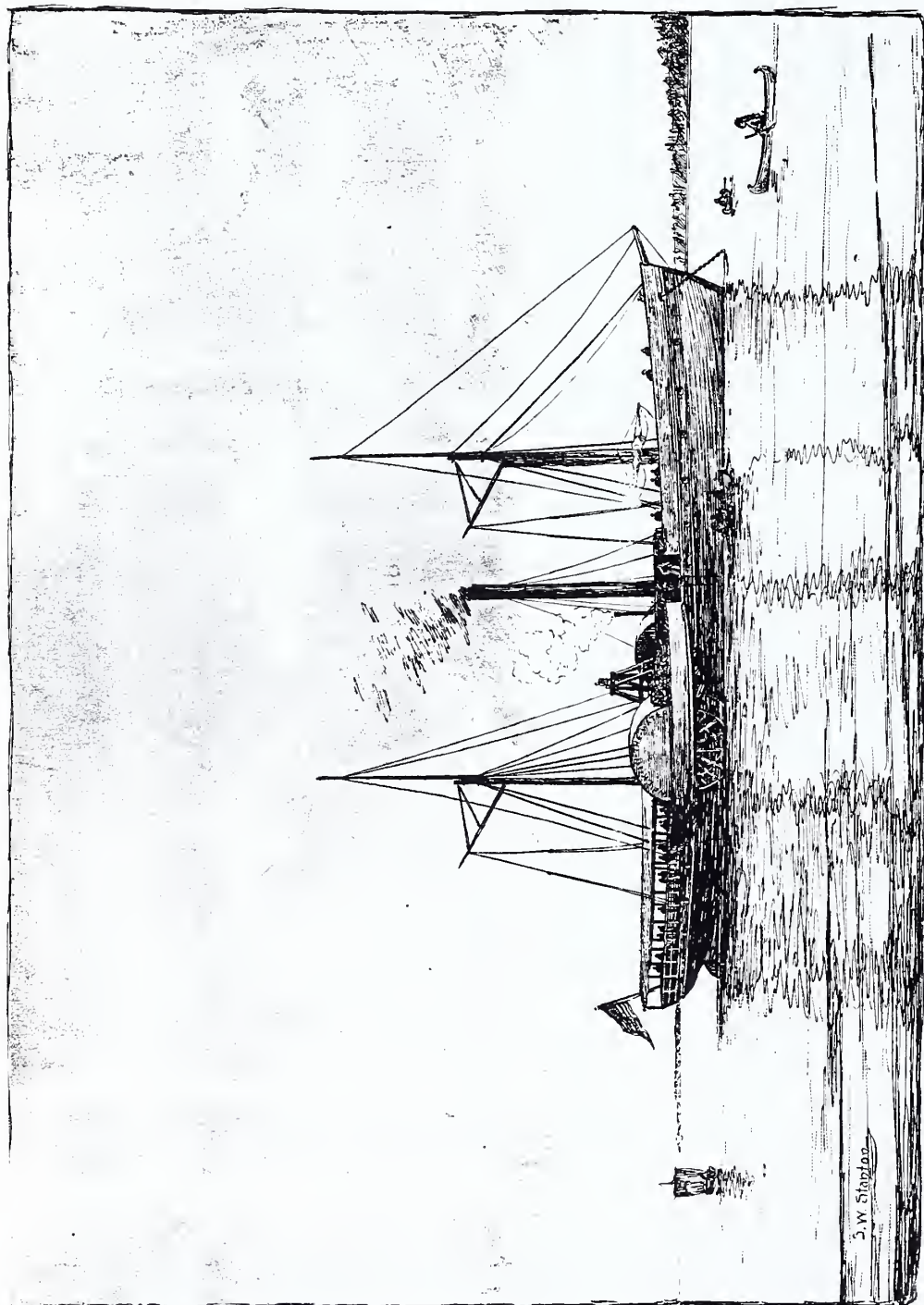
the sun;' but to add to his distress, the shades of night were now gathering around him, and he was soon enveloped in darkness. The sky was overcast, and the light of a few stars that twinkled through the haze alone remained to guide his path over the dark and troubled waters. In this fearful condition, destitute of food and the necessary clothing, his log canoe was rocked upon the billows during that long and terrible night. When morning appeared he was in sight of land, and found that he had made Long Point, on the Canada shore. Here he was met by an adverse wind and a cross sea, but the same providential aid which had guided him thus far still sustained and protected him; and after being buffeted by the winds and waves for nearly thirty hours, he succeeded in reaching the land in safety.

"What were the emotions he experienced on treading once more 'the green and solid earth' we shall not attempt to inquire, but his trials were not yet ended. He found himself faint with hunger and exhausted with fatigue, at the distance of forty miles from any human habitation, whilst the country that intervened was a desert filled with marshes and tangled thickets, from which nothing could be obtained to supply his wants. These difficulties, together with the reduced state of his strength, rendered his progress towards the settlement slow and toilsome. On his way he found a quantity of goods, supposed to have been driven on shore from the wreck of some vessel, which, although they afforded him no immediate relief, were afterwards of material service.

"He ultimately arrived at the settlement and was received and treated with great kindness and hospitality by the people. After his strength was sufficiently recruited, he returned with a boat, accompanied by some of the inhabitants, and brought off the goods. From this place he proceeded by land to Buffalo, where, with the avails of his treasure, he furnished himself in the garb of a gentleman, and finding the Traveler, Capt. Charles Brown, from Conneaut, in the harbor, he shipped on board and was soon on his way to rejoin his family. When







From "The American Steam Tugboat" Copyright 1895, by Smith & Stanton.

### STEAMBOAT WALK-IN-THE-WATER

First steam vessel on Lake Erie. Built at Black Rock, N. Y., 1818; wrecked 1821

the packet arrived off his dwelling, they fired guns from the deck, and the crew gave three loud cheers. On landing he found his funeral sermon had been preached, and had the rare privilege of seeing his own widow clothed in the habiliments of mourning."

*Other Events of 1817.*—January 1: Seven vessels enrolled in Buffalo district for navigation of the season. April 1: A steamer put on the route between Ogdensburg and Niagara, touching at Sacket's Harbor and Oswego. April 29: Ice leaves Lake Erie ports. August 19: Schooner *Tigress* sustains damages during a storm on Lake Erie. Her cargo of furs considered the most valuable ever floated on the lake. December 31: Fishing interests near Sacket's Harbor cleared \$6,000 during the season. One hundred arrivals and clearances during the season at Buffalo. The first bridge connecting Goat Island, Niagara Falls, with the mainland was built in 1817 by Judge Porter.

In 1817, very soon after Fort Dearborn had been reconstructed, at Chicago, the schooner *Heartless* arrived off the lake shore. Attempting to run up the Chicago river she was beached in the sand. Efforts to float her proved unavailing, and there she remained, a complete wreck, the first one which occurred within sight of Fort Dearborn.

1818.

*The Memorable Walk-in-the-Water.*—

The year 1818 is memorable for the construction of the *Walk-in-the-Water*, the first steamboat on Lake Erie. During the winter of 1817-18 the following named persons associated to build a steamboat to navigate Lake Erie: Joseph B. Stuart, Nathaniel Davis, Asa H. Curtis, Ralph Pratt, James Durant and John Meads, of Albany, and Robert McQueen, Samuel McCoon, Alexander McMuir and Noah Brown, of the City of New York. Of these, Mr. McQueen, a machinist, built the engine, and Mr. Brown, a shipwright, superintended the construction of the hull.

Early in 1818 Mr. Brown laid the keel at the mouth of Scajaquada creek. There,

May 28, 1818, he launched a boat of the following dimensions: Length, 135 feet; width, 32 feet; depth, 8 feet 6 inches; 338 tons, with two masts, carrying mainsail, foresail and foretopmast staysail. On August 25, the *Walk-in-the-Water* departed on her first passage over the waters of Lake Erie, with twenty-nine passengers on board, bound for Erie, Grand River, Cleveland, Sandusky and Detroit. Her license and enrollment were dated August 22, 1818. She reached Detroit, over this course, in 44 hours and 10 minutes running time, developing a speed of about seven and a half miles per hour. She was commanded by Capt. Job Fish, who had sailed the lakes for several years, master of a trading schooner.

The scene presented when the boat was ascending the Niagara from Black Rock was picturesque. The primitive steamboat struggled with the rapid current, aided by several yoke of oxen on the beach, tugging at the end of a long towline. This was the historical "horn breeze" prevalent on Niagara river, when the current was stronger than the applied steam power.

According to Capt. Barton Atkins, of Buffalo, the origin of the name was as follows: "When Fulton first steamed his boat, the *Clermont*, up the Hudson, in 1807, an Indian standing on the river bank, gazing long and silently at the boat moving up stream without sails, finally exclaimed: 'Walks in the water.' The man in the forest saw the boat stemming the current unaided by any power known to him. He observed the paddle wheels slowly revolving, and intuitively comprehended that when a paddle struck the water there was a step forward."

It may be here stated briefly that the name, "*Walk-in-the-Water*," being so long, was not generally used, either in conversation or in print. As she was the only one of her class on Lake Erie she was usually designated as "*The Steamboat*."

The arrival of the steamboat at Cleveland is thus chronicled by a local historian: "On the first day of September, 1818, an entire novelty—the like of which not one in 500 of the inhabitants had ever before seen—presented itself before the people of

Cuyahoga county. On the day named the residents along the lake shore of Euclid saw upon the lake a curious kind of a vessel, making what was then considered very rapid progress westward, without the aid of sails, while from a pipe near its middle rolled forth a dark cloud of smoke, which trailed its gloomy length far into the rear of the swift-gliding mysterious traveler over the deep. They watched its westward course until it turned its prow toward the harbor of Cleveland, and then returned to their labors. Many of them doubtless knew what it was, but some shook their heads in sad surmise as to whether some evil powers were not at work in producing such a strange phenomenon as that, on the bosom of their beloved Lake Erie. Meanwhile the citizens of Cleveland perceived the approaching monster, and hastened to the lake shore to examine it. 'What is it?' 'What is it?' 'Where did it come from?' 'What makes it go?' queried one and another of the excited throng. 'It's the steamboat, that's what it is,' cried others in reply.

"Yes, yes, it's the steamboat; it's the steamboat," was the general shout, and with ringing cheers the people welcomed the first vessel propelled by steam which had ever traversed the waters of Lake Erie. The keel had been laid at Black Rock, near Buffalo, in November, 1817, and the vessel had been built during the spring and summer of 1818. It had received the name of 'Walk-in-the-Water,' from a Wyandot chieftain, who was formerly known by that appellation; which was also extremely appropriate as applied to a vessel which did indeed walk in the water like a thing of life.

"The harbinger of the numerous steam-leviathans of the upper lakes, and of the immense commerce carried on by them, was of 300 tons burden, and could carry a hundred cabin passengers, and a still larger number in the steerage. Its best speed was from eight to ten miles an hour, and even this was considered something wonderful. All Cleveland swarmed on board to examine the new craft, and many of the leading citizens took passage in it to Detroit, for which place it soon set forth."

In the *Detroit Gazette* is found an account of her first passage to that city: "The Walk-in-the-Water left Buffalo at one and a half P. M., and arrived at Dunkirk 35 minutes past six on the same day. On the following morning she arrived at Erie, Captain Fish having reduced her steam in order not to pass that place, where he took in a supply of wood." [The boat was visited by all the inhabitants during the day, and had the misfortune to get aground for a short time in the bay, a little west of French street.] "At half-past seven P. M. she left Erie, and arrived at Cleveland at eleven o'clock, Tuesday; at twenty minutes past six P. M. sailed, and reached Sandusky bay at one o'clock on Wednesday; lay at anchor during the night, and then proceeded to Venice for wood; left Venice at three P. M. and arrived at the mouth of Detroit river, where she anchored during the night.

"The whole time of this first voyage from Buffalo to Detroit occupied 44 hours and 10 minutes—the wind ahead during the whole passage. Not the slightest accident happened during the voyage, and her machinery worked admirably.

"Nothing could exceed the surprise of the 'sons of the forest' on seeing the Walk-in-the-Water move majestically and rapidly against wind and current, without sails or oars. Above Malden they lined the shores and expressed their astonishment by repeated shouts of 'Taiyoh nichee'! [An exclamation of surprise.]

"A report that had circulated among them that a 'big canoe' would soon come from the 'noisy waters,' which, by order of the 'great father of the Chemo Komods' [Long Knives or Yankees] would be drawn through the lakes and rivers by a sturgeon. Of the truth of the report they were perfectly satisfied."

Her second arrival at Detroit was on September 7, of the same year, having on board 31 passengers, including the Earl of Selkirk and suite, destined for the far Northwest.

The cabins of the Walk-in-the-Water were fitted up in a neat, convenient, and elegant style, and a trip to Buffalo was considered not only tolerable, but truly pleas-



ant. She made an excursion from Detroit to Lake St. Clair, with a party of ladies and gentlemen, and returned to Buffalo in time to be again at Detroit the following week.

Tradition has it that Captain Fish was not particularly pleased with the lake, and returned in a short time to his former command on the Hudson, the *Firefly*, running between Poughkeepsie and New York. Capt. John Davis being a thorough and accomplished seaman (which Captain Fish did not profess to be) amused himself by exciting his fears and magnifying the dangers of lake navigation. Captain Davis had been master of the schooner *Michigan*, had command of the *Walk-in-the-Water* after Captain Fish resigned, and previous to the appointment of Capt. Jedediah Rogers.

*The fleet on Lake Ontario* in 1818 numbered 60 vessels. There was a considerable commerce in timber and staves, picked up on the south shore of the lake. But as there were then no harbors on the lake the timber was floated out to the vessels, and the staves carried out in scows. These articles were carried by vessels down to Cape Vincent and Carlton's island, and other points at the head of the St. Lawrence river, where they were unloaded, made into rafts, and floated thence down the St. Lawrence to Montreal and Quebec.

On April 22, 1818, a second steamboat was launched at Ernettstown, named the *Queen Charlotte*. This vessel ran twice each week from Wilkin's wharf to Prescott. Up to the time this vessel commenced running the stage coach had run between Kingston and Prescott, but it now ceased to make its trips.

*Wreck of the Hercules.*—Late in October, 1818, the schooner *Hercules* was wrecked in Lake Michigan between the two Calumet rivers, and all on board perished. The first intelligence of the fatal catastrophe was communicated by the finding of the wreck of the vessel, and the bodies of the passengers strewn along the shore. Several days, however, had elapsed before this discovery was made, and the bodies were so beaten and bruised by the spars of the

wreck that the deceased could not be recognized by their features. Among these was Lieut. William S. Evileth, an intelligent and promising young officer of engineers, whose death was much lamented. He had been employed in the rebuilding of Fort Dearborn at Chicago, and had embarked, the day previous to the shipwreck, at Chicago, to return to his friends, after a summer spent in arduous and useful service. When the unfortunate young man was found his face had been so gnawed by wolves that he would not have been identified, had it not been for the military buttons of his clothes.

The marine interests of Chicago during these early years were centered in the Mackinac trading-boats, which belonged to the American Fur Company, and an occasional craft which stopped at the fort on government business.

*Other events of 1818*—March 6: Capt. John Mach dies at the age of 58 years at Chataaugus Creek. April 15: Navigation opened at Sacket's Harbor by the sloop *Arcadia*, cleared for Niagara. April 21: Ice leaves many Lake Erie ports. April 25: Schooner *Nancy*, in command of Captain Fairbanks, of Putneyville, ashore near Eighteen Mile creek. July 16: Steamboat *Sophia* launched at Sacket's Harbor; built by Mr. Roberts, to ply between Sacket's Harbor and Kingston. August 18: Light-house completed at Erie. August 23: Steamer *Walk-in-the-water* leaves Buffalo for Detroit, on her first trip, in command of Captain Fish. September 27: Steamboat *Walk-in-the-water* sustains injuries by running aground near Erie. October 10: Capt. Daniel S. Dexter, commandant of the Naval Station on Lake Erie, dies at Erie. October 21: Schooners *Eagle* and *Commodore Perry* ashore near Buffalo creek during a storm. November 3: Schooner *Hercules* in command of Captain Church, wrecked on Lake Michigan during a violent gale. Several lives lost. November 15: Schooner *Independence*, commanded and owned by Capt. John Brooks, capsized and wrecked off Black river; crew drowned and cargo lost. November 15: Schooner *Paulina*, loaded with

salt, ashore near Grand River. Crew saved; cargo lost. Schooner Boxer sustains serious injuries at Grand River during the storm. Schooner Wasp, dismasted and driven ashore at Cunningham's creek; crew saved; cargo lost. British brig Lord Wellington, wrecked at Point Albino; crew saved; cargo lost. November 18: Schooner General Brown driven ashore and severely damaged, at Black river; crew saved. December 26: Schooner Dolphin wrecked by the ice at Putneyville, Lake Ontario. December 31: Ninety-six arrivals and clearances at Buffalo during the season.

1819.

*Walk-in-the-Water Visits Green Bay.*—The Walk-in-the-Water this year made a trip to Mackinaw and Green Bay, and was thus the first steamboat on the waters of Lake Michigan.

The New York *Mercantile Advertiser*, of May —, 1819, contained the following notice:

"The swift steamboat Walk-in-the-Water is intended to make a voyage early in the summer from Buffalo, on Lake Erie, to Michilimackinac, on Lake Huron, for the conveyance of company. The trip has so near a resemblance to the famous Argonautic expedition in the heroic ages of Greece that expectation is quite alive on the subject. Many of our most distinguished citizens are said to have already engaged their passage for this splendid adventure.

"Her speed may be judged from the fact that it took her ten days to make the trip from Buffalo to Detroit and back, and the charge was eighteen dollars. The Walk-in-the-Water made this trip to carry up the American Fur Company's goods."

This advertisement appeared in the Buffalo papers in 1819: "Notice—Sealed proposals will be received by Harry Thompson for supplying 600 cords of basswood for the steamboat Walk-in-the-Water, the wood to be delivered on the river bank adjoining the steamboat wharf. Payment will be made one-fourth on the delivery of the wood, the remainder on the first day of May next. Dated Black Rock, October 19, 1819." To make steam for a modern lake

steamer, basswood would be considered rather thin. With such fuel it is doubtful if one of them could maintain a speed of seven and a half miles per hour, the boasted achievement of the Walk-in-the-Water.

An advertisement in the Kingston, Ont., *Chronicle* of April 30, 1819, reads as follows: "The steamboat Frontenac, James McKenzie, master, will in future leave the different ports on the following days: Kingston, for York, on the 1st, 11th and 21st of each month; York, for Queenston, on the 3rd, 13th and 23rd days of each month; Niagara, for Kingston, on the 5th, 15th and 25th of each month. Rates of passage, from Kingston to York and Niagara, £3; from York to Niagara, £1; children under three years of age, half price, above three and under ten years of age, two-thirds price. Passengers are allowed 60 pounds of baggage. Gentlemen's servants can not eat or sleep in the cabin. Deck passengers will pay 15 shillings, and may either bring their own provisions or be furnished by the steward. For each dog brought on board, 5 shillings."

*Other Events of 1819.*—February 1: Ice leaves several Lake Erie harbors. October 24: Snow at Buffalo obstructs navigation to and from that harbor. November 6: Schooner Kingbird, with a cargo of salt for Portland, ashore near Buffalo creek. Sloop General Huntington sustains loss on Lake Erie during a storm. British schooner Elizabeth in command of Captain Fellows, with a cargo for Malden, ashore near Point Albino. December 8: Navigation closed at most lake ports. Ninety-six arrivals and departures at Buffalo during the season. The Dalhousie, built in 1819, was the third steamer built on the Canada side of Lake Ontario, at Kingston, by Henry Gildersleeve. She plied on the same route as the steamer Charlotte.

1820.

*Schoolcraft's Trip.*—Henry R. Schoolcraft took passage on the Walk-in-the-Water in 1820 while on his trip up the lakes. "On the sixth of May" he writes, "I embarked on board the steam boat, which left Black Rock at 9 o'clock in the morning.



and reached Detroit on the eighth at 12 o'clock at night. We were favored with clear weather, and a part of the time with a fair wind. The boat is large, uniting in its construction a great degree of strength, convenience and elegance, and is propelled by a powerful and well-cast engine, on the Fultonian plan, and one of the best pieces of workmanship of the original foundry (McQueen's, New York). The accommodations of the boat are all that could be wished, and nothing occurred to interrupt the delight which a passage at this season affords. The distance is computed at 300 miles; the time we employed in the voyage was sixty-two hours, which gives an average rate of traveling of five miles per hour. The first two miles after leaving Black Rock, a very heavy rapid is encountered, in ascending which the assistance of oxen is required. In passing through Lake Erie the boat touches at the town of Erie, in Pennsylvania, at the mouth of Grande river and at the towns of Cleveland and Portland, in Ohio, the latter situated on Sandusky bay."

"While detained at Bois Blanc," writes Schoolcraft, "a vessel bound for Michilimackinac passed up through the narrow strait which separates the island from the main shore. It is interesting to contemplate the progress of commerce through regions which at no remote period were only traversed in bark canoes."

*The Governor Cass Expedition.*—In 1820 General Cass, under the authority of the Secretary of War, directed an exploring expedition which passed along the southern shore of Lake Superior and crossed over to the Mississippi. This expedition had among its principal objects that of investigating the northwestern copper mines, and was accompanied by H. R. Schoolcraft, in the capacity of mineralogist and geologist. His observations are recorded in his "Narrative Journal of Travels from Detroit northwest, etc.," from which the following account is condensed:

Schoolcraft, from Grosse Point, was a member of a party of 38 persons, all embarked in three canoes. It included, besides himself, Gov. Lewis Cass, of Michigan

Territory, his staff and officers numbering seven, ten Canadian voyageurs, seven United States soldiers, ten Indians, an interpreter and a guide. Only enough provisions were taken to serve the party to the island of Michilimackinac, to which place the stores, arms, Indian goods and other principal outfits had been sent by vessels in order to facilitate their passage through Lake Huron. The three canoes were moved wholly with paddles, but a sail provided to each, as well as a small standard, bearing the arms of the United States. Each canoe had also a tent or marquee and an oil cloth, together with the necessary gum, bark and apparatus for mending canoes. "From Port Huron," says Schoolcraft, "it is necessary, in order to strike the mouth of St. Clair river and to save a tedious voyage round the shore, to traverse across a large bay, or arm of the lake, but before we had reached half the distance the wind arose and continued to blow with such violence that with every exertion little headway could be made, while the waves were frequently breaking across our canoes, which rendered it necessary for one man to be continually employed in bailing out the water. On the fourth day from Detroit, or May 26, 1820, Fort Gratiot, at the foot of Lake Huron, was reached. In ascending St. Clair river nine vessels, detained by head winds, were passed. They were laden with merchandise, military stores and troops for Michilimackinac, Green Bay and Chicago. They also passed a number of Indian canoes, in each of which were generally one family with their blankets, guns, fishing apparatus and dogs.

In order to cross Saginaw bay with safety in a canoe, says Schoolcraft, it is necessary to pass up the eastern shore from Point aux Barques to Point aux Cheves, a distance of 18 miles. Here, if the lake be calm, the voyageur crosses by a stretch of 20 miles to the opposite shore, with the advantage of landing on the island of Shawangunk, should a storm overtake him in the center of the bay, which is frequently the case. On gaining the opposite shore, it is necessary to pass down the bay about the same distance that was formerly as-



cended, before the open lake is again reached. The entire crossing can easily be performed in one day if the weather is favorable, but this does not always happen, and the fatal accidents that have formerly befallen those who were too venturesome have operated as a severe caution to voyageurs and canoe travelers of the present day, so that it is difficult to induce the former to attempt it, unless the weather be perfectly clear and the bay calm.

At Presque Isle, three days later, the party carried their canoes and baggage across the portage, which is about 200 yards, over a low, sandy neck of land, connecting the peninsula with the mainland. By this portage they saved a voyage of six or eight miles around a point of land which projects into the lake.

The next day, the fourteenth from Detroit, they reached Mackinac. "Nothing can present a more picturesque or refreshing spectacle to the traveler, wearied with the lifeless monotony of a canoe voyage through Lake Huron," exclaims the traveler, "than the first sight of the island of Michilimackinac, which rises from the watery horizon in lofty bluffs, imprinting a rugged outline along the sky, and capped with two fortresses, on which the American standard is seen conspicuously displayed. A compact town stretches along the narrow plain below the hills, and a beautiful harbor, checkered with American vessels at anchor, and Indian canoes rapidly shooting across the water in every direction." The distance from Detroit to Mackinac is computed at 300 miles by those who perform the route in vessels of a large size, but is about 360 miles when all the indentations of the shore are followed.

Mackinac, in 1820, had a permanent population of about 450, but is sometimes swelled by the influx of traders, voyageurs and Indians to one or two thousand.

"During our detention here," says Schoolcraft, "vessels have been constantly entering or leaving the harbor, giving the town an appearance of bustle and business, which was not expected. This appearance of trade has, perhaps, recently assumed a partial activity by the concentration of a

considerable military force on the frontier, which has furnished employment to a number of vessels in the transportation of troops, military stores and provisions."

The provisions and stores shipped from Detroit reached Mackinac several days later, and June 13 the party, now reinforced to 42, embarked for Sault Ste. Marie in four canoes, escorted by a detachment of 22 soldiers in a 12-oared barge, under command of Lieut. Pierce, for the Indians were reported to entertain a spirit of hostility to the United States; and might stop the passage through to Lake Superior.

*Other Events of 1820.*—April 1: The Lake Erie Steamboat Company incorporated at Buffalo. April 5: Navigation open at Cleveland. May 6: Navigation open at Buffalo, by the Walk-in-the-Water bound for Detroit. August 4: Schooner Commodore Perry, bound from Sacket's Harbor, filled and sank off Putneyville; crew saved. Vessel recovered by the Lady of the Lake. September 4: Lighthouse at Galo island near Sacket's Harbor, lighted first time. October 11: Schooners Commodore Perry and Wolf driven ashore during a severe gale near Buffalo. Schooner Franklin, in command of Captain White, of Erie, and owned by Peter S. V. Hamot, with cargo valued at \$3,500, sunk at Grand River; crew lost. Schooner Zephyr, in command of Captain Napier, wrecked; ten lives lost. October 26: Schooner Asp, in command of Captain Prossey, wrecked near the Salmon river, Lake Ontario; several lives lost. October 11: Schooner Elizabeth wrecked near Conneaut; several lives lost. October 23: Schooner Lavantia, in command of Captain Stonburner, bound from Oswego to the Genesee river, wrecked off Little Sodus bay; crew saved; cargo lost. November 12: British schooner Owen, in command of Captain St. Clair, bound from Kingston to Niagara, ashore at Long Point, during a severe snow storm; crew saved; cargo lost. November 26: Schooner Erie, bound from Black Rock to Detroit damaged, during a storm. November 11: Schooners American Eagle, William, and Washington driven ashore at Cleveland during a gale. During a heavy storm and fall of snow, the schooner

Triumph went ashore at the head of the Genesee river, schooner Swallow ashore near Braddock's Point, schooner Minerva ashore near Oswego, the British vessel Wellington ashore at the head of Lake Ontario. The Kingston Packet and the Cornet aground near the Niagara river. November 24: Schooner Eagle, in command of Captain Manchester, sunk off Long Point. November 28: Schooner Lady Prevost driven from her moorings at Fort Erie, and beached near Bird island.

During the autumnal storms 18 vessels were lost on Lake Ontario.

The enrollment of the Walk-in-the-Water for 1820 shows that Mary A. Gillespie and Elizabeth H. Post were part owners.

In 1820 the John Watkins, a Canadian schooner, was afloat, and the schooner Lady Sarah Maitland, named after one of the "fair women," mentioned by Lord Byron as being present at the celebrated ball, given at Brussels by the Duchess of Richmond, on the eve of the battle of Waterloo. In July, 1820, there was launched at York the sloop Richmond, 100 tons burden, which sailed between York and Niagara.

## CHAPTER XXXIV.

1821—1830.

WRECK OF THE WALK-IN-THE-WATER, 1821—STEAMER SUPERIOR IS BUILT AND LAUNCHED, 1822—OTHER HAPPENINGS IN 1821-22—COMMERCE GRADUALLY IMPROVES, 1823—SOME EVENTS IN THAT YEAR—THE CONSTRUCTION OF THE ERIE CANAL IN 1824—OTHER EVENTS—OPENING OF THE ERIE CANAL, 1825—VALUABLE FUR CARGO—SEVERE OCTOBER GALE—STEAMER NIAGARA BUILT AT TORONTO—OTHER EARLY STEAMSHIPS—OTHER EVENTS OF 1825—FIRST LAKE VESSEL ON THE ERIE CANAL—STEAMER HENRY CLAY, 1826—NEW STEAMER CANADA—ERIE'S FIRST STEAMBOAT, ETC.—MCKENNEY'S TRIP UP THE LAKES—OTHER EVENTS OF 1826—TRIP TO GREEN BAY, 1827—OTHER EVENTS OF 1827—THE SCHOONER CANADIAN—OTHER EVENTS OF 1828—FIRST PASSAGE THROUGH THE WELLAND CANAL, 1829—OTHER EVENTS OF 1829—FIRST STEAMBOAT EXPLOSIONS, 1830—FIRST THREE-MASTED STEAMBOATS—REMARKABLY LATE SEASON—FIRST MARINE REPORTING—OTHER EVENTS OF 1830.

1821.

THE year 1821 was notable for the wreck of the first steamer on Lake Erie—The Walk-in-the-Water. The principal Buffalo newspaper devoted but a single paragraph to the disastrous event. The article reads as follows: "It is with extreme regret that we have to announce that the steamboat was beached about 100 rods above the lighthouse on Thursday morning last, and is so badly damaged that she cannot be repaired. The boat was heavily laden, and on her last trip for the season. The crew are now removing her machinery.

We understand that the machinery might be used in another boat. The boat is owned by a company in Albany and New York, and we have not been able to learn whether she is insured or not."

The published communication of a passenger on the fated boat gives additional particulars and incidents of the historical wreck. It is as follows: "On Wednesday, October 31, the Walk-in-the-Water left Black Rock at 4 P. M., on her regular trip to Detroit. The weather, though somewhat rainy, did not appear threatening. After proceeding a short distance up the lake, she was struck by a severe squall, which contin-

ued to blow through the night with extreme severity. The lake became rough to a terrifying degree, and every wave seemed to threaten destruction to the boat and passengers. To proceed up the lake was impossible. To attempt to return to Black Rock amid the darkness and howling tempest would be certain destruction. She was then anchored, and for a time held fast. The casing in her cabin moved at every roll, and the creaking of her joints and timbers was appalling. She commenced leaking, and her engine was devoted to the pumps, but the water increased to an alarming extent, and the wind increased to an alarming degree. The wind blew more violent as the night advanced, and it was discovered that she was dragging her anchors. The passengers were numerous and many of them were ladies, whose fears and cries were truly heartrending. In this scene of distress and danger all the passengers feel the warmest gratitude to Captain Rogers for the prudence, coolness and intelligence with which he performed his duty. The boat was now at the mercy of the waves until 5 o'clock in the morning, when she was beached a short distance above the lighthouse, and we all debarked. Some idea may be formed of the fury of the storm from the fact that, though heavily laden, the boat was thrown entirely on the beach."

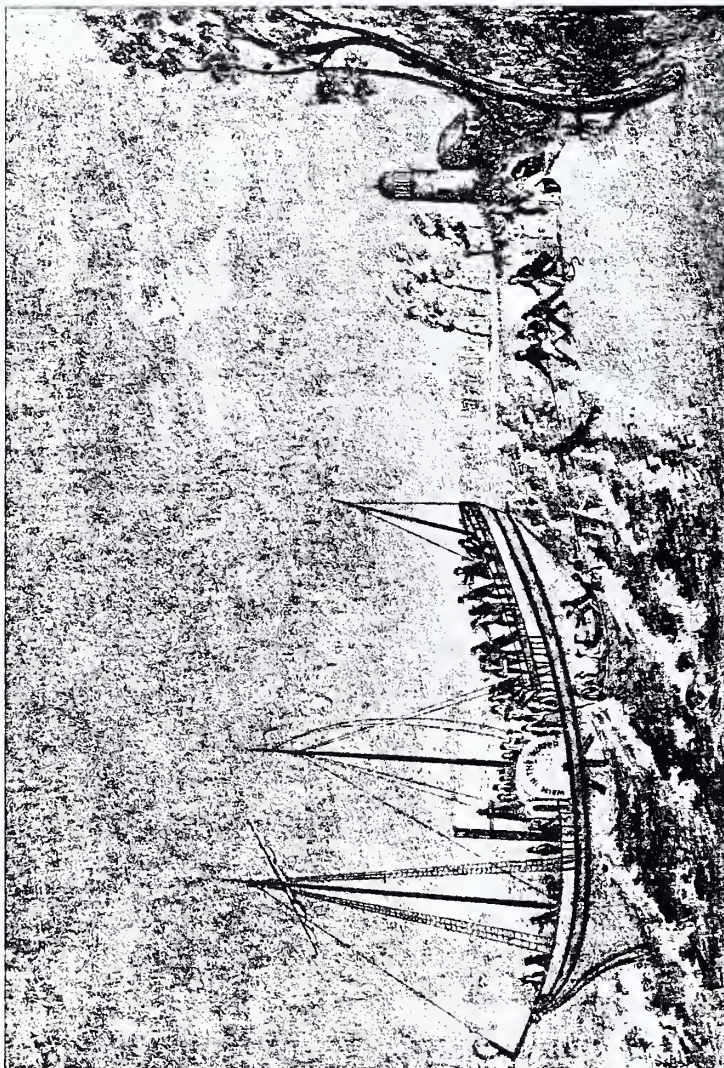
The following account of the disaster, and of a subsequent tedious voyage from Buffalo to Detroit in November, was written by Mrs. Welton, one of the passengers: "The steamboat 'Walk-in-the-Water' left Black Rock the evening of October 31, 1821, bound for Detroit, with the following list of passengers: The Rev. Alanson W. Welton and family, Jedediah Hunt, William Lattimore, Thomas Palmer, Orlando Cutter, William Bercry, Silas Meriam, Mary A. W. Palmer, Rhoda Lattimore, Catharine Palmer, Marthy Bearey, Chauncey Barker, George Williams, Thomas Gray, E. N. Berge, John Hudson, F. Martin and George Throop. For the first few hours after leaving Black Rock, we had fair weather, but about eight o'clock in the evening, and while we were at supper, a terrific gale commenced, which lasted through-

out the night. The boat, being unable to make headway against the gale, Captain Rodgers gave orders to cast anchor. We were then a few miles above the old Buffalo lighthouse. Here we lay until nearly daylight. During all this time, the creaking of her timbers throughout her whole length, warned us of the probable fate in store for us all. The joints in her timbers opened in a frightful manner. At daylight, her anchors dragging, the captain gave orders to cut her cables and let her drift ashore, and the passengers were advised of the possible fatal result. Tired out with anxious watching, I had taken my berth with my children, keeping my own and their clothes on. My husband was still on deck. When the captain's summons came to the cabin passengers to turn out, as the boat was going ashore, the floor of the cabin was ankle deep with water. The passengers were strangers to each other, only a few hours having elapsed since leaving Black Rock. I will not attempt to describe the anxious, prayerful, tearful upturned faces that were grouped together in the cabin of the 'Walk in the Water' on that terrible, cold morning as we looked into each other's faces for probably the last time.

"The boat struck the beach in a fortunate spot for the safety of the passengers and crew—near the lighthouse—and all were saved. The warm fireside we gathered around at the lighthouse was comfortable to our chilled limbs, and our hearts warmed with gratitude to God for deliverance from our peril. Monday, November 5, we embarked on the schooner Michigan, from Black Rock, determined to reach Detroit, our destined home and field of missionary labors. The weather was favorable until Tuesday, when opposite Cleveland another gale broke over us, before which we were driven like a feather, and came to anchor under Long Point, Canada, only 16 miles from Buffalo. On the morning of the 8th of November, we again got under way, with a fair wind, reaching a point opposite Cleveland, when another storm met us, from which we sought shelter in Erie Harbor, Pennsylvania. Here we were obliged to remain eleven days, the storm was so







WRECKING OF THE WALK-IN-THE-WATER, NOVEMBER 1, 1821.

From an oil painting by Mr. Matthies, made for Thomas and Mary A. W. Palmer, of Detroit, who were on the boat at the time of the disaster, returning home from their wedding trip. The wreck occurred just above the old lighthouse, or nearly opposite the foot of Main Street, Buffalo, before daylight. Copy of painting obtained from C. M. Burton, Detroit.

severe and continued, having, during this time, made three efforts to get on our way to Detroit and as often being driven back to Erie. Our fourth trial was successful, and although the weather was still what the sailors called rough, we reached the harbor of Put-in-Bay island. We spent the Sabbath on shore, and on Monday again set sail for Detroit. At evening we dropped anchor at the mouth of Detroit river. Here we lay, unfavorable winds detaining us for a whole week, but we finally arrived at Detroit on Saturday evening, December 1, 1821. Of all the passengers who were on board the 'Walk-in-the-Water' on the last day of October, 1821, our little family were the only ones that ventured upon the waters of Lake Erie again that season, and I was the only female passenger throughout this tiresome voyage. The other passengers took the wagon route through Canada and arrived at Detroit before we did. We were 32 days on steamer and sailing vessel between Buffalo and Detroit."

When the Walk-in-the-water stranded on the beach at Buffalo, she had aboard eighteen passengers and a full and valuable cargo, resulting in a loss to her owners of \$10,000 or \$12,000. Her engine was afterward placed in the Superior, which was built by a chartered company, and had an exclusive privilege in the navigable waters of New York. This privilege was abandoned after a decision of the Supreme Court of the United States.

A citizen of Detroit, writing to Schoolcraft, November 17, 1821, thus deploras the wreck of the Walk-in-the-water: "This accident may be considered as one of the greatest misfortunes which have ever befallen Michigan, for in addition to its having deprived us of all certain and speedy communication with the civilized world, I am fearful it will greatly check the progress of emigration and improvement. They speak of three new boats on Lake Erie next season; I hope they may be erected, but such reports are always exaggerated."

*Steamer Superior is Built and Launched.*

—The hull of the Walk-in-the-water was damaged beyond repair, and, having been a financial success, her owners determined to

replace her, and during the following winter the Superior was built on the bank of Buffalo creek, by Noah Brown, "master carpenter." She was not quite as long nor as wide as her predecessor, but was two feet deeper. She was owned by the Lake Erie Steamboat Company, and was launched April 13, 1822. She was the first vessel of any size built at Buffalo. Some slight work had to be done in the mouth of Buffalo creek in the way of cutting through the sand bars, so as to deepen the waters, in order that the Superior might get out into the lake. The shallowness of the water there had caused the owners of this boat to hesitate about building her on Buffalo creek, but, as they were assured that the spring freshets would clear the mouth of the creek, and a guarantee of \$100 per day was given by responsible citizens for each day that she was delayed in the creek, after she was ready to go out, they decided to build her there.

When she was nearly ready to go out there was great anxiety lest this guarantee would have to be made good, and the citizens assembled every day in large numbers, merchants, lawyers and laborers alike, with teams, scrapers and shovels, and other necessary tools, and labored most assiduously to remove as much of the bar as was necessary to permit the Superior to pass out and to return to the harbor, and those who could not work sent down provisions of all kinds to those at work, in order to help the good work along. All felt that success in getting this vessel out of the harbor into the lake was vital to the future of that harbor.

The fateful day arrived, and after some little difficulty in touching the bar, the Superior got out into the lake, being aided by her engine, around the shaft of which a cable was wound and attached to an anchor carried ahead. After making a few miles' run on the lake to try her machinery, she returned to the harbor, and everybody concerned breathed more freely, for it then seemed certain that had the Superior failed to get out over the bar at the mouth at Buffalo creek, the harbor for commerce at the lower end of the lake would have been established at Black Rock.



The Superior went into commission in May, 1822, under command of Capt. Jedediah Rogers, and until 1826 was the one steamboat of Lake Erie. This boat also made voyages to Mackinac, which was then the Ultima Thule of western navigation.

"The Superior, being the second steamer built on the lakes, had proved herself a staunch boat," says Schoolcraft, who in 1822 was a passenger on her trip to Sault Ste. Marie. He narrates that the steamer came to anchor from an apprehension that the bar of Lake George could not be crossed. Its depth of water was then stated to be but 6 feet 2 inches. The journey was completed in the ship's yawl, Captain Rogers of the steamer taking the helm.

*Other Happenings in 1821-22.*—April 19: Schooner Prudence, owned by Philo Taylor, launched at Cleveland. May 13: Navigation open at Buffalo and other Lake Erie ports. May 29: Schooner Ariadne launched at Sacket's Harbor. November 1: Steamboat Walk-in-the-Water wrecked on Lake Erie near the lighthouse at Buffalo. October 31: Capt. Henry I. Guest washed overboard from his schooner, the Wolf, during a severe storm. December 21: Lake Erie frozen over. March 26, 1822: Navigation opened at Cleveland by the schooner Lake Serpent, which cleared for Detroit, in command of Captain J. Burtis. March 16: Navigation opened at Detroit. April 13: Steamboat Superior launched at Buffalo Creek, owned by the Lake Erie Steamboat Co., and the successor of the Walk-in-the-Water. April 15: Schooner Ariadne, owned by Denison & Kimball, of Sacket's Harbor, wrecked during a severe gale on Lake Ontario. May 14: Steamer Superior leaves Black Rock on her first trip to Detroit. August 14: Steamer Superior disabled near Cleveland; passengers transferred to a schooner, and steamer brought to Buffalo for repairs. December 10: Schooner General Huntington sustains injuries during a storm near Buffalo; 15, schooner Hannah sustained injuries on Lake Erie; 31, two

hundred arrivals and departures at Buffalo during the season.

1823.

*Commerce Gradually Improves.*—The year 1823 was without any lake incidents of exceptional importance. The Superior continued to ply on Lake Erie, and commerce gradually improved.

*Some Events in 1823.*—The Richmond, packet, in command of Captain Oats, opened navigation at Buffalo, March 6, bound for New York. April 27: Navigation opened at Buffalo by the departure of the schooner Huntington, in command of Captain Naper, for Detroit. June 26: Schooner Eclipse, 58 tons, launched at Vermillion. September 20: Severe gale on Lake Erie. The pier at Bird island badly damaged. September 27: Steamboat Superior damaged during a storm on Lake Erie. September 29: Snow storm at Buffalo delays navigation. October 2: Schooner Erie, packet, 33 tons burden, launched at Erie. November 20: Schooner Micator ashore at the mouth of Rocky river. November 22: Schooner Erie, packet, ashore near Grand river.

1824.

*The Construction of the Erie Canal.* which was in progress this year and was rapidly approaching completion, aroused considerable interest in lake circles, especially at the lower end of Lake Erie.

*Other Events.*—About 1824 a sailing vessel named the Heartless undertook to enter the Chicago river, but ran ashore and was beached on the sand. Navigation opened at Buffalo, April 29, by the steamboat Superior, which cleared for Detroit. May 12: Severe storm on Lake Erie. Schooner Sylph in command of Captain Haskin, and bound for Detroit from Sandusky, wrecked at North Bass island; several lives lost including Captain Haskin. July 22: Ship Columbus launched near Quebec, 300 feet long. October 29: Pier at Black Rock badly damaged during a storm. There were 286 arrivals and departures at the port of Buffalo during the season.

1825.

*Opening of the Erie Canal.*—The year 1825 was notable for the formal opening of the Erie canal, an event described elsewhere in this volume. In the celebration of that event a simultaneous discharge of cannon took place throughout the entire distance between Albany and Buffalo at intervening points, during which a line of canal boats were *en route* on the passage westward.

*Valuable Fur Cargo.*—The schooner *Mariner*, Captain Blake, August, 1825, landed at Buffalo a cargo of furs worth \$267,000, belonging to the American Fur Company. Usually the finer furs were conveyed to Montreal by an inland route. From Mackinaw they were taken to the mouth of Canadian river, which communicated by portage with Grand river, and thence down to the St. Lawrence in bark canoes. The skins and coarser portions were taken in vessels to Fort Erie, and by boats to Chippewa; across the portage to Queenston, and by vessels to Kingston; thence down the St. Lawrence in boats.

*Severe October Gale.*—The schooners *Minerva* and *General Huntington* were caught in a severe gale near Cleveland in October 1825. The former let go her anchors off the port, while the latter was driven down the lake and went ashore ten miles above Erie. She was freighted with ashes. In the same storm the steamboat *Pioneer* and the schooner *Phœbe* went ashore at Grand River, but were got off. The schooners *Mercatur*, *William*, *Nep-tune* and *Prudence* went ashore in the same gale at Cleveland, and the *William* became a total loss. The schooner *John Q. Adams* went ashore at Buffalo.

*The Steamer Niagara* was built at Toronto about 1825 as a sailing vessel, owned and commanded by Captain Mosier, and at first called the *Union*, of Wellington Grove. She capsized in the St. Lawrence river near Prescott, and, being righted, she was cut in two, about 30 feet added to her length, and she was then converted into a steamer, and named the *Niagara*. After this transformation had taken place she was

described as a handsome and well-built boat, with a powerful engine and excellent accommodations for passengers. She once made the trip from York to Prescott and back again in less than four days.

In 1825 there was built at Queenston the steamer *Queenston*, of 350 tons, owned by Hon. R. Hamilton, which ran between Queenston and Prescott, by way of York. The steamer *Caroline*, 75 tons, was built at Kingston in 1825, and ran from the head of the bay of Quinte to Prescott. The steamer *Toronto* was built in 1825 at the foot of Church street, Toronto, and ran a few years; proving, however, at last a failure, she disappeared.

*Other Events of 1825.*—January 1: About 60 sail craft registered for the season's service on the lakes. March 20: Navigation opened at some ports on Lake Erie. May 11: Schooner *Superior* in command of Captain Sherwood, ashore at Cedar Point, while attempting to enter Sandusky during a gale. June 9—Steamer *Henry Clay*, 300 tons burden, launched at Black Rock. August 6: Schooner *Bolivar*, in command of Captain Miles, and schooner *Commerce*, in command of Captain Gillett, arrive at Buffalo on their maiden trips. August 17: Steamboat *Pioneer* in command of Captain Pease, makes her maiden trip. September 20: Schooner *Commodore Perry* ashore near the mouth of Fox river after springing a leak. September 28: Schooner *Mariner* in command of Captain Blake, arrives in Buffalo from Green Bay with 30 tons of maple sugar, made by the natives of that place. The canal-boat *Troy*, of the Merchants line, in command of Captain Stillwell, arrives at Buffalo *via* the Erie canal. November 12, being the first boat from the Atlantic ocean. December 9: Schooner *Good Intent*, bound for Sandusky, and in command of Captain Talbott, wrecked on Lake Erie off Dunkirk. Schooner *Milan* damaged during a gale off Point Albino; 20, navigation closed at several ports.

*First Lake Vessel on the Erie Canal.*—Capt. Sam Ward, of Newport, Mich., built at that place, in 1824, a schooner of 30 tons burden, called the *St. Clair*. He loaded her with skins, furs, potash and black wal-



nut lumber for gun-stocks in June, 1826, and started for New York city. He arrived at Buffalo, took out her spars, and towed her through the canal to Albany with his own horses. She was then towed by steam down the Hudson river to New York; and returned the same way to his home, making the voyage in eight weeks. This was the first vessel that passed from the lakes to the ocean via the Erie canal.

1826

*The Steamer Henry Clay*, of 1,300 tons burden, commenced plying between Buffalo and Detroit, in connection with the Superior, in 1826, their order of sailing being every fourth day from either port, leaving Buffalo at 9 o'clock A. M. and Detroit at 4 P. M., calling at Dunkirk, Portland, Erie, Grand River, Cleveland and Sandusky. If bad weather intervened the two first ports were omitted. The Clay was the first arrival at Detroit from Buffalo on the opening of navigation in 1826, which was May 8, and is thus announced by the press at the time:

"The first arrival from Buffalo the present season is the new and elegant steamboat Henry Clay, Capt. Walter Norton. This vessel is worthy of the name of the great Western orator and statesman, and we have no doubt the enterprise and liberality of her owners will be amply remunerated. The Henry Clay is of 301 tons, and has an engine of 60-horse power. Her model is highly approved, and her cabins are elegantly and expensively fitted up. The well known politeness of Captain Norton, his experience and skill as a seaman, together with a circumstance that considerable of her stock is owned in Detroit, will insure to the Henry Clay a profitable business."

*New Steamer Canada.*—In 1826 Joseph Dennis was engaged in shipbuilding at Toronto. *The Loyalist* of June 3, that year, speaking of a new steamer just built by Mr. Dennis, said: "The new steamer Canada was towed into port this week from the mouth of the Rouge, where she was built during the past winter. She will shortly be fitted up for her end route, which we understand will be from York to Niagara, around the head of the lake, and will add another

to the increasing facilities of conveyance in Upper Canada. Six steamboats now navigate the St. Lawrence and Lake Ontario. In this Province, besides the Canada, they have one nearly ready for launching at Brockville."

*The Loyalist* of August 12, 1826, thus announces the first trip of the Canada across from York to Niagara: "The new steamboat Canada, Captain Richardson, made her first trip to Niagara on Monday last (August 7), and went into the harbor in fine style. Her appearance reflects much credit on her builder, Mr. Joseph Dennis, and the machinery, manufactured by Messrs. Ward Brothers, of Montreal, is of superior workmanship. The combined excellence in model and machinery of this boat is such as will render her what is usually termed a 'fast boat.'" The trip to Niagara was made in a few minutes over four hours.

*Erie's First Steamboat.*—The first steamboat launched at Erie was the William Penn, of 200 tons, May 18, 1826. She was 95 feet keel, 25 feet beam, and 8 feet hold, being the sixth American steamboat on the lake, and was built by the Erie & Chataqua Steamboat Company. The company was incorporated April 10, 1826.

The new steamboat William Penn, of 200 tons burden, and sailed by Capt. John F. Wright, arrived at Detroit August 22. She was described as a powerfully built boat, and well calculated for lake navigation. She had a low-pressure engine, with walking beam of cast iron. On her arrival salutes were exchanged with the steam brig Superior. Simultaneously the good schooner Marion, Captain Blake, arrived from Bay City.

*McKenney's Trip up the Lakes.*—An interesting series of letters describing a trip up the lakes during the summer of 1826, was written by Thomas L. McKenney, of the Indian Department, while on his way to Fond du Lac to negotiate a treaty with the Chippewa Indians. Writing from Detroit, June 16, 1826, he says: "I arrived at this place this morning, after an agreeable passage from Buffalo of 37 hours, exclusive of the time lost in stopping at Grand river.



Cleveland, Sandusky, etc., to put out and take in passengers—distance, about 330 miles. It is due to the *Henry Clay*, in which I made my first lake voyage, that I should speak of her as being one of the first class. She is schooner rigged, and has depth and beams suited to the use of sails, when these are needed, and her timbers are stout and well put together, that she may endure the shocks of this inland sea, and the stormy route, for which she was built.

"In this fine boat I left Buffalo in company with some 30 cabin and perhaps 40 deck passengers, the latter chiefly emigrants from New York and the New England States, to this Territory, and three Indians. A word about Lake Erie. I knew its length, its breadth and depth, and yet I confess I had no more correct conceptions of the lake as it appeared to me than if I had never had the slightest acquaintance with its dimensions. All my previous conception of a lake fell so far short of its actual vastness and ocean-like appearance, as to be wholly absorbed in the view of it. I could but wonder what my opinion of lakes will be, after I shall have seen and navigated Huron and Superior. Lake Erie, though considerably smaller than either, is a vast sea, and often more stormy, and even dangerous, than the ocean itself.

"It is hardly possible for anything to exceed in beauty the river Detroit, and its shores and islands. The British schooner, the *Wellington*, was lying at Malden, full of British soldiers, destined, we were informed, to Drummond's island.

"The steamboats *Superior* and *Henry Clay* are surpassed by few, if any, either in size, or beauty of model, or in the style in which they are built and furnished. But there is business for more; and three or four, it is believed, are now in a state of forwardness, to run also between Buffalo and Detroit. I should infer from what I have seen that they all may do a profitable business. \* \* \* I have just returned from the Governor's, where I have spent the evening, and most agreeably, notwithstanding a most furious gust of wind and rain, accompanied by vivid and frequent flashes of lightning, and the most appalling

thunder. Great fears are entertained for the steamboat, the *Superior*, which was expected up about an hour before the gust arose, and has not yet arrived. I have this moment heard the signal gun, announcing the arrival of the *Superior*. She is several hours out of her usual time, no doubt in consequence of the gust."

When Mr. McKenney next writes, he is aboard the schooner *Ghent*, Captain Hinkley, bound up from Detroit. While becalmed on St. Clair river he says: "At 2 o'clock the *John Quincy Adams* came down from Michilimackinac, and, on nearing us, anchored. We heard of the *Young Tiger*, with our provisions and stores. The *J. Q. A.* passed her about 100 miles ahead. At sundown the wind shifted to the southwest, but did not blow strong enough to force us through this current. How invaluable are steamboats felt to be by persons thus circumstanced."

At Drummond's island the party left the schooner *Ghent*, and with a total of 43 persons embarked for the Sault in four large barges, each capable of carrying 40 barrels, and propelled some of them by 12 oars, and from Sault Ste. Marie the journey was continued up Lake Superior to Fond du Lac in barges and canoes.

While on his return trip from Fond du Lac, Mr. McKenney says: "Heard that the *Ghent*, in which we came to Drummond's island, had returned to Detroit, was condemned and sunk. Her bottom was entirely decayed, so much so as to yield to the slightest pressure. She went from the Detroit, after we parted from her, to Michilimackinac, took in part of a cargo, returned to Detroit and, while in the act of receiving her return cargo, sunk. Our escape was indeed narrow."

Mr. McKenney made the trip down Lake Huron in the little revenue cutter, Captain Knapp. He says: "The deck of this little cutter is made of the masts of the *Lawrence*, Perry's ship. In one of the planks immediately under the tiller is the bruise of a shot. Whatever can be made into convenience and fitness for the duties of a cutter for the lake service, Captain Knapp has most ingeniously effected in this, now ten-

years-old boat. But, after all, the thing is too small. These lakes and their commerce, and the thousand offices of accommodation to officers charged with the government business, besides the duties, for the execution of which this boat was provided, demand a vessel of other dimensions; and when a suitable one can be provided for \$2,000, as I am told it can, it is not unreasonable to expect that, if requested, authority will be instantly granted to build one."

Embarking at Detroit on the steamer Superior, Mr. McKenney pays this tribute to her worth: "The Superior is a fine boat, 140 feet long and 30 feet broad in the widest part, with ladies' apartments on the deck. She is schooner rigged, and in all respects a boat of the first class. Her commander is active and intelligent, and adds to his vigilance, in the conduct of his charge, the polish of the gentleman."

*Other Events of 1826.*—In 1826 a sailing vessel, the Young Tiger, when visiting Chicago, undertook to enter the river, but, failing, anchored out in the lake. She slipped her cable and went ashore. In 1826 the American steamer Martha Ogden was placed on the line between York and Niagara. The Canadian sloop Richmond was wrecked near Brighton, on Presque Isle bay. The schooner General Brock, of Toronto, is mentioned for the first time in 1826. May 15: Congress appropriated \$15,000 for improving Buffalo harbor, being the first appropriation ever made for that purpose. July 17: Lighthouse at Dunkirk began by Garnsey & Dox. August 1: Steamer Henry Clay damaged on Lake Erie by the breaking of her shaft; 16, steamboat Wm. Penn, 217 tons burden, in command of Capt. J. F. Wright, arrives at Buffalo on her maiden trip. November 7: Sloop Ohio ashore near Buffalo during a severe storm; 26, piers at Black Rock severely damaged by a storm. In November, 1826, the Canadian steamer Niagara struck on a reef of rocks off Poplar Point, about 50 miles from Kingston, but all her passengers were saved and most of her cargo.

1827.

*Trip to Green Bay.*—The steamer Henry Clay made a trip to Green Bay in June, 1827, and was the third steamer to visit Lake Michigan waters. On her return voyage she had as passengers Generals Scott and Brady, with other U. S. officials. In that year the line of boats plying between Detroit and Buffalo was increased by the Niagara, of 180 tons, built at Black Rock and sailed by Capt. W. Pease, and in the arrangements thus completed there was one to leave either port on alternate days.

*Over the Falls.*—In 1827 the schooner Michigan, having been condemned as unseaworthy, was sent over Niagara Falls. The event was announced in sensational handbills, which proclaimed that "the pirate ship, Michigan, with a cargo of furious animals, will pass over the Falls of Niagara on the 8th of September, 1827." Entertainment was promised for all who might visit the Falls on that occasion, which would "for its novelty and the remarkable spectacle which it will present, be unequaled in the annals of infernal navigation." The Michigan was 136 tons burden. The event was witnessed by several thousand people.

*Other Events of 1827.*—February 23: Lake Erie free from ice at Cleveland. April 19: Navigation opened at Buffalo by the schooner Marie Antoinette, in command of Captain Whittaker. May 2: Congress appropriates \$4,000 for a foundation to a lighthouse at Buffalo; 18, Congress appropriates \$33,348 for the construction of two piers at the north of Oswego harbor; 8, schooner Young Lion, 50 tons burden, launched at Black Rock. Owned by Norton & Bliss and Captain Burnett, and built for the Canada lumber trade. June 22: British schooner Surprise wrecked on Lake Erie. Schooner Nucleus ashore at Sandusky. Steamboat Ontario ashore at Oswego. August 10: Steamer William Penn, bound for Buffalo, damaged on Lake Erie, by breaking of her machinery. September 8: Schooner Michigan, 136 tons, sent over Niagara Falls, and witnessed by several thousand people. October 3: Steamboat



Pioneer disabled near Buffalo. November 6: Schooner America, loaded with salt, ashore at Long Point. Steamboat Superior aground at Sandusky bay; released November 3; 5, schooner Ann wrecked at Long Point; several lives lost. Schooner Young Farmer ashore at Long Point; greater part of cargo lost; 17, schooner Columbus, in command of Captain Naper, bound for Ash-tabula, ashore, while attempting to enter Dunkirk harbor. December 31: Nine hundred and seventy-two arrivals and departures at Buffalo during the season.

1828.

*The Schooner Canadian*, built at York, was launched about the middle of April, and a day or two afterward the schooner George IV was launched. The steamer Alciope, built at Niagara, by Hon. Robert Hamilton and Andrew Heron, arrived on her first trip at York, June 26, 1828.

The Benjamin Rush, a revenue cutter of 35 tons, was launched September 13, 1828, at Erie. She was intended for the upper lakes.

*Other Events of 1828.*—January 10: Schooner Dewitt Clinton arrives at Buffalo from Grand River. May 19: Congress appropriates \$34,206 for Buffalo harbor. July 3: Steamer William Penn arrives at Buffalo from Green Bay, having made the trip in four and one-half days, the quickest time ever made between the two places. October 13: Schooner Louisa Jenkins ashore at Grand River; cargo damaged to the extent of \$1,000. Schooner Columbus ashore at Grand River; principal part of cargo lost. Schooner Young Lion ashore at Otter Creek, U. C. British schooner Susan ashore at Otter Creek; 19, schooner Lady Washington, with cargo valued at \$10,000, wrecked at Sturgeon Point; crew saved. December 4: Capt. James Rough, a native of Scotland, aged 67 years, dies at Black Rock; probably the oldest navigator then on the upper lakes, having commanded a vessel since 1790.

1829.

*First Passage Through the Welland Canal.*—A notable event took place late in

the year 1829, that of communication between the upper and lower lakes, by the passage of an American and British vessel from Lake Ontario to Lake Erie. These were the Jane and Ann, British, and the R. H. Boughton, American. The Welland canal at this period was completed as far as Port Robinson on the Chippewa river, through which they passed to the Niagara river, and were thence towed by horses to Lake Erie. A party of gentlemen were on either vessel with music and artillery to celebrate the event. They arrived at Black Rock December 2.

*Other Events of 1829.*—There was built at Bath, on the Bay of Quinte, the steamer Sir James Kempt, which attained a speed of about 12 miles per hour. March 28: Ice thickest at Buffalo since 1806. April 23: Ice leaves the lake at Erie. May 14: Navigation opened at Buffalo by the steamboat Pioneer, cleared for Dunkirk; 20, steamboat Wm. Peacock, in command of Captain Hanson, arrives at Buffalo on her maiden trip; 24, steamboat Pioneer disabled on Lake Erie. June 1: Steamboat Winnebago Chief launched at Green Bay. October 4: Steamboat Pioneer in command of Capt. J. Naper, sunk at Black Rock, by collision with an icebreaker. November 23: Schooner Dunkirk, in command of Capt. G. Patterson, wrecked above Cattaraugus creek; vessel and cargo a total loss; packet Conneught, Captain Appleby, ashore above Erie; Schooner Fair Play, Captain Fitch, totally wrecked near Cattaraugus creek; schooner Young Lion, Captain Burnet, ashore at Portland; schooner Morning Star, Captain Tubbs, wrecked on Lake Erie; 23, schooner Gueriere, Captain Wadsworth, sustained injuries near Port Albino; schooner Detroit, damaged during a storm on Lake Huron; schooner Liberty, Captain Macaby, ashore at point on Plait island, finally drifted and sank; schooner Maria Antoinette, aground near Sandusky, losing greater part of cargo; steamboat Wm. Penn, disabled, and taken to Fairport; schooner Macedonian, Captain Foster, wrecked at East Sister island; crew rescued by the schooner Minerva, and brought to Cleveland. November 12: Lighthouse pier



at Buffalo destroyed by a severe storm; 31, eighteen hundred arrivals and departures at Buffalo during the season.

1830.

*First Steamboat Explosions.*—In September, 1830, the boilers of the Peacock exploded soon after her departure from Buffalo, which resulted in the loss of 15 lives, mostly emigrants. Capt. John Flee-harty was in command. This is recorded as the first explosion on the American side of the lakes. The steamer Adelaide, Capt. Christie, which was also running this year between Chippewa and Amherstburg, exploded in June, killing three persons. She was 230 tons burden, and low pressure.

The Newberryport, of 75 tons burden, built at Erie in 1829, was designed to ply on the St. Joseph river, between there and White Pigeon, and there served her time.

*First Three-Masted Steamboat.*—The steamer Sheldon Thompson, Capt. Augustus Walker, came out in 1830, but was not associated with the regular line, and made her first trip to Mackinac and Green Bay, August 1, of that year. She was built at Huron, was of 242 tons burden, low pressure, and carried three masts, the first of that rig on the lakes.

*Remarkably Late Season.*—The last steamer to leave Detroit, at the close of navigation in 1830, was the Ohio, which cleared November 30, for Buffalo. Sail vessels, however, continued to navigate the western part of the lake until the early part of January, as it was an uncommon season for navigation. The schooner Napoleon arrived at Detroit from Buffalo, December 15, and the schooner Antelope, from Miami, on the 4th of January.

*First Marine Reporting.*—Marine reporting at Detroit took its rise in 1830. J. B. Vallee was a pioneer marine reporter and the records show that he was faithful in the discharge of his duty.

*Other Events of 1830.*—March 8: Navigation opened at Cleveland by the sloop Express, cleared for Maumee. Navigation was opened April 6 at Buffalo. The first boat, the William Penn, did not, however, arrive at Detroit until the 15. April 10: Navigation opened at Buffalo by the schooner Napoleon, from Detroit. May 3: Steamboat Superior, at one time the only boat on the upper lakes, rebuilt and again put in commission; 23, steamboats William Penn and Pioneer collide near Dunkirk, and sustain injuries; two men drowned; 22, steamboat Sheldon Thompson, 220 tons burden, launched at Milan, Ohio. August 14: La Fayette packet, owned by Benjamin A. Naper, of Ashtabula, wrecked at Put-in-Bay island; crew rescued by a sloop from Sandusky; 19, steamboats Sheldon Thompson and William Peacock damaged by collision near Erie. September 16: Steamboat William Peacock, Captain Flee-harty, explodes, about four miles from Buffalo. Fifteen lives lost. First serious accident in the history of steam navigation on the lakes; 18, steamer Sheldon Thompson damaged by collision with the steamer Enterprise, on Lake Erie. October 25: British schooner Free Trader, of Otter Creek, U. C., seized at Black Rock for violation of revenue laws. November 15: Schooner Emily wrecked on Lake St. Clair; seven persons, including the master, drowned. December 31: Two thousand and fifty-two arrivals and departures at Buffalo during the season.



## CHAPTER XXXV.

1831—1840.

GROWTH OF TRAFFIC ON LAKE ONTARIO, 1831—TRAFFIC BETWEEN BUFFALO AND PORT ROBINSON—STEAMER OHIO COMES OUT—THE SUPERIOR GOES OVER THE FALLS—OTHER EVENTS OF 1831—BLACKHAWK'S WAR, AND CHOLERA, 1832—WRECK OF THE OGDEN—TROUBLES OF THE SCHOONER SUPPLY—EVERGREEN FROM GREEN BAY—OLD HULKS AT KINGSTON, ETC.—SOME NEW VESSELS—FIRST LIGHTSHIP AT HEAD OF MACKINAW STRAITS—OTHER EVENTS OF 1832—A REMARKABLE DELIVERANCE—NEW VESSELS—OTHER EVENTS OF 1833—TRIP OF THE ILLINOIS TO CHICAGO, 1834—FIRST STEAMER ON ST. JOSEPH RIVER—SOME NEW VESSELS—OTHER EVENTS OF 1834—TERRIFIC STORM OF NOVEMBER, 1835—OTHER EVENTS OF 1835—LOSS OF THE STEAMBOAT DELAWARE, 1836—LAUNCH OF THE MANHATTAN—A TRIP TO CHICAGO IN 1836—OTHER EVENTS OF 1836—THE CANADIAN REBELLION, 1837—NIAGARA FALLS RUNS DRY—OTHER EVENTS OF 1837—THE CANADIAN REBELLION OF 1838—STEAMER SIR ROBERT PEEL PLUNDERED AND BURNED—THE AFFAIR AT PRESCOTT—BURNING OF THE STEAMER GEORGE WASHINGTON—THE TERRIFIC STORM OF NOVEMBER, 1838—OTHER EVENTS OF 1838—INDIGNITIES TO THE CREW OF THE GIRARD—SEIZURE OF THE WEEKS—ATTEMPT TO BURN THE GREAT BRITAIN—LOSS OF THE NEPTUNE AND VICTOR—SOME FAST RUNS—OTHER EVENTS OF 1839—STEAMER GENERAL HARRISON BUILT, 1840—FIRST SUSPENSION BRIDGE OVER NIAGARA—OTHER EVENTS OF 1840.

1831.

ON January 28, 1831, an Act of the Legislature was passed, constituting Joseph Denison and his associates a corporate body under the name of The Ontario and St. Lawrence Steamboat Company, with a capital of \$100,000, and limited to May 1, 1850. The owners of the Martha Ogden and the Ontario, theretofore engaged in navigating the lake and river, were entitled to the amount of the appraised value of those boats, and the affairs of the company were required to be managed by fifteen directors. The stockholders were jointly and severally liable for the contracts of the company, and persons having demands against the corporation might sue any stockholder or director for the recovery of the same. The place of business of the company was to be fixed at Oswego and its transactions were limited solely to Lake

Ontario and the river St. Lawrence. This company built at Ogdensburg the steamer United States, which for size and amount of accommodation far exceeded any boat that had previously been run by an American on Lake Ontario. She was launched in November, 1831, and came out on her first trip July 1, 1832, under command of Elias Trowbridge. Her dimensions were as follows: length, 142 feet, beam 26 feet, and she was 55 feet wide over all. Her depth of hold was 10 feet. Her engines were low pressure, with a 40-inch cylinder and 8 feet stroke. Her cost was \$50,000.

*Traffic between Buffalo and Port Robinson.*—For several years considerable traffic was carried on between Buffalo and Port Robinson *via* Chippewa, commencing in 1831, by steamboats. Of those thus early employed were the Perseverance, sailed by Capt. Sam Vary; the Victory, Capt. John Hibbard; Caroline, Capt. James Ballantine;

Emerald, Captain Van Allen; and Clifton, Captain Willoughby. The construction of a railroad on either side of the Niagara river in later years, made it no longer a paying business, when it was discontinued.

*Steamer Ohio Comes Out.*—In 1831 the steamer Ohio, 187 tons, built at Sandusky, was added to the Buffalo and Detroit line, and was commanded by Capt. W. Cahoon. The Thompson also came over to the majority. The Peacock was withdrawn from this line, and was transferred to a shorter route between Buffalo and Erie.

*Superior Goes Over the Falls.*—A rather unusual event transpired in September, 1831, by the fitting out and sending over Niagara Falls of an old hulk called the Superior, which had served well her time on the lakes. A large concourse of people were attracted from all parts. She struck an island a short distance above the precipice and there remained for one month, when high water floated her.

*Other Events of 1831.*—March: Congress appropriated \$25,412 for Buffalo harbor improvements. April: Schooner Henry Clay, in command of Captain Brown, driven ashore at Maumee bay; schooner Prescott driven from her moorings, and foundered at the mouth of York bay; schooners George the Fourth, Lady Colborne and Lady Hillier driven ashore at York bay; steamboat Wm. Peacock driven from the wharf at Erie, and went ashore. May: Navigation opened at Buffalo by the schooner Gen. Cass departing in command of Captain Whitaker. June: Steamboat Sheldon Thompson damaged by collision with the steamboat Ohio, near Ashtabula. July: Schooner Henry Clay, bound from Oswego to Cleveland, capsized near Port Dalhousie; several lives lost. October: Sloop Olive Branch, bound for Ashtabula, wrecked at the mouth of Grand river; crew saved; valuable cargo lost; schooner Marshall, of Conneaut, wrecked on Lake Erie. December 31: Two thousand, four hundred arrivals and departures at Buffalo during the season.

1832.

*Blackhawk's War, and Cholera.*—The year 1832 was notable in lake history for the transportation of troops to Chicago to quell Blackhawk's war, and for the simultaneous and destructive breaking out of cholera. In 1832 the first steamboat visited Chicago. There were few traces of civilization after passing the Straits of Mackinac, not a single village, town or city being in the whole distance. Four steamers, the Henry Clay, Superior, Sheldon Thompson and William Penn, were chartered by the United States Government for the purpose of transporting troops, provisions, etc., to Chicago during the Black Hawk war; but owing to the fearful ravages made by the breaking out of the Asiatic cholera among the troops and crews on board, two of these boats, the Henry Clay and the Superior, were compelled to abandon their voyage, proceeding no farther than Fort Gratiot. On the Henry Clay nothing like discipline could be maintained. As soon as the steamer came to the dock each man sprang on shore, hoping to escape from a scene so terrifying and appalling. Some fled to the woods, some to the fields, while others lay down in the streets, and under the covert of the river bank, where most of them died, unwept and alone.

On the Sheldon Thompson, commanded by Capt. A. Walker, with General Scott aboard, 88 deaths occurred from the pestilence. Not one officer of the army nor any officer of the boat was attacked with such violence as to result in death, though nearly one-fourth of the crew fell a prey to the disease while on the passage from Detroit to Buffalo.

The Thompson reached Chicago, July 10, 1832, also the Asiatic cholera. At that time there was a fleet of vessels at anchor in the offing. Some eight days after the arrival of the Sheldon Thompson, the William Penn appeared in Chicago harbor, with troops and supplies.

The first visitation of cholera to this country made its appearance in 1832, first at Quebec, June 11, on which date 34 deaths occurred, principally among emigrants just



landed; many had died on the passage. Its next appearance was in New York City, Albany and in Buffalo the forepart of July, and it gradually worked westward.

The steamboat Henry Clay, on her arrival in Cleveland had five deaths on board, and the steamer Superior two deaths. The schooner Benjamin Rush also arrived with three dead on board, and like instances were not unfrequent on the lakes.

*Wreck of the Ogden.*—The Martha Ogden, built at Sacket's Harbor, in 1819, was wrecked at Stony Point November 12, 1832. William Vaughan was her captain. She left Oswego for Sacket's Harbor, but having sprung a leak, her fires were put out, and her sails spread; but the wind, which in the afternoon was southwest, veered to the west-northwest, then to the northwest, and finally to the north, and prevented her from doubling Stony Point. Both anchors were thrown in eight and a half fathoms of water, and they held her fast from 4 P. M. to 11 P. M., when they successfully parted, and she soon struck and bilged in ten feet of water. The crew consisted of six hands, and there were 22 passengers on board. With much peril a man succeeded in reaching the shore, eight rods distant, aroused the inhabitants, built fires, and in the morning a line was passed to the shore, and the whole company on board was safely drawn ashore in a three-bushel basket rigged upon a line with a Dutch harness. Captain Vaughan was the last man to leave the vessel, which went to pieces during the day. She was owned by S. and L. Denison, of Sacket's Harbor, and she was wrecked at Nutting's bay, on the coast of Henderson.

*Troubles of the Schooner Supply.*—The schooner Supply, Captain Campbell, owned by the mission at Mackinac, was wrecked in the month of November, this year, by getting ashore on a bar at or near Gorse island, where she bilged and sunk. Her cargo, consisting of supplies, was saved, except 150 barrels of salt. A short time prior to her loss she was driven ashore on the Canada side of Lake Huron, and was with difficulty rescued. She had on board a quantity of furs, which were saved in a damaged condition. The cause of her

troubles, which were several that season, was attributed to the inefficiency of the crew, who had but little or no experience.

*Evergreen from Green Bay.*—Steamers visiting the upper lakes during this period of navigation, and more especially Green Bay, would, on the return voyage, arrive decked out with evergreen, tied to flagstaff, mast-head and bowsprit, as an indication of the far-off regions they had visited.

*Old Hulks at Kingston, Etc.*—In 1832 there were yet several hulls of vessels at Kingston that had been begun during the war of 1812, but never completed, on account of the closing of the war. They were then fast going to decay. One 74-gun ship was sold for £25, and some time later, during the same year, a heavy rainstorm accompanied by thunder and lightning occurred, and split the St. Lawrence down the center; the props giving way, she broke into a thousand pieces and fell to the ground in heaps of ruins. This year there were built three new Canadian steamers: the John By, of 100 tons, at Kingston; the William IV, of 450 tons, at Gananoque; and the Transit, of 350 tons, at Oakville, the latter having at first been named the Constitution.

*Some New Vessels.*—On Lake Ontario the new steamer Great Britain (Canadian) was commissioned, commanded by Capt. Joseph Whitney and plied between Prescott and Niagara, calling at way landings and occasionally at Oswego. She had two low-pressure, walking-beam engines of 90-horse power each. The steamer Canada, Capt. Hugh Richardson, was also plying in Canadian waters during that period and previously, but was finally wrecked near Oswego by going ashore and breaking up. On the American side, beside others previously noted, the steamer United States commenced plying in July, 1832, commanded by Capt. Elias Trowbridge. She had two beam engines, 40-inch cylinders, 8-foot stroke, with boilers on the guards.

*The First Lightship.*—Located at the head of Mackinaw Straits, was the Louis McLean, of 60 tons, built at Detroit in 1832. She served as a beacon to warn vessels of the dangers of Waugoschance.

During this year there were a hundred

vessels navigating Lake Erie and westward with a total of 2,740 tons.

*Other Events of 1832.*—Navigation opened April 11 at Erie, by departure of schooner Mary of Milan, Capt. Z. Phillips, Detroit. Schooner Buffalo, 161 tons burden, launched at Huron, Ohio. Navigation opened April 27, at Buffalo, by schooner Gov. Cass, cleared for Sandusky. Schooner Atlanta, 100 tons burden, launched at Fairport; owned by Geauga Iron Company and H. Phelps. May: Schooner John Q. Adams, Capt. B. Stanard, capsized off Grand river; crew rescued by schooner Comet. Schooner Guerriere capsized at the mouth of the Detroit river; five lives lost. July: Steamboat Pennsylvania, launched at Erie; owned and built by Col. Charles M. Reed; largest boat on the lakes. Schooner Jesse Smith, of Oswego, filled and sunk in the Niagara river, near Black Rock. September: Steamboat General Brady launched at Detroit; intended to ply on the Detroit river. Schooner Elisha Whittlesey, Capt. William Hecox, capsized and sunk off Salem, Ohio; eight passengers and two of the crew drowned; captain and remaining members of the crew rescued by the schooner Huron, Captain Perkins. November: Schooner Andrew, owned by Captain Belden, of Cleveland, stranded near Buffalo. Canadian schooner Lord Nelson ashore at Dunkirk. Schooner Supply ashore at Goose island, near Detroit. 12, steamboat Martha Ogden, Captain Vaughn, wrecked at Stony Point; crew and passengers saved; boat owned by L. and S. Denison. Steamboat New York launched at Black Rock. Schooner Governor Cass aground near Detroit river. December: Schooner Caroline capsized between the Ducks and Galoe islands; crew saved.

1833.

*A Remarkable Deliverance.*—Capt. W. Jones, of Cleveland, in 1878 related the following wonderful deliverance in 1833 of a passenger from the wrecked schooner New Connecticut, and the facts were then remembered and vouched for by a number of the older vessel men. Said Captain Jones:

"In the autumn of 1833 Capt. Gilman

Appleby, of Conneaut, Ohio, was captain and part owner of the schooner New Connecticut. A steamboat was then being built at Conneaut (the North American), of which Captain Appleby had charge and was for many years her master. An aunt of his then residing at Black Rock, below Buffalo, was visiting a brother at Erie. The lady went to Conneaut in company with a nephew to visit a brother there. After remaining there some time she became exceedingly anxious to get home. Captain Appleby, who was busy with the steamboat, endeavored to dissuade her from taking the home journey until he should be going out with his vessel, when he would take her home. His efforts, however, in that direction were unavailing, and he had her taken on board the schooner to go to Buffalo in charge of the crew. Everything passed off quietly until after the vessel passed Erie, when a sudden squall struck her and rolled her over on her side. She nearly filled with water, but continued to float. The crew, lowering the vessel's yawl, jumped in and pulled for the shore, leaving the woman in the cabin, as they supposed, drowned. The party landed at or near Portland, Chautauqua Co., N. Y., and made their way as best they could back to Conneaut.

"Three days after the accident Captain Wilkins, of the steamboat William Peacock, in coming down from Detroit, was besought by Captain Appleby to board the wreck if he saw it, and if possible get the body of his aunt out of the cabin and convey it to Buffalo. Captain Wilkins discovered the disabled vessel drifting down the lake, and, after coming alongside, Capt. Wm. Henton (then first mate of the Peacock) boarded the wreck and made search. The schooner lay upon her side, and, to all appearances, was full of water. A pole was employed, and it was supposed every part of the cabin was touched, and as no object in the shape of a human body was reached, the conclusion was, that the body had floated out of the cabin into the lake; hence further search was given up. Two days afterward Captain Appleby came down with a vessel with facilities to right the schooner and tow her into the nearest port.



"When the vessel had nearly reached a level position, the woman walked through the water and came up the stairs to the deck. She was caught by Captain Appleby and supported, while her son, who was present, wept and the sailors screamed. Five days and nights had she been in the water, a portion of the time up to her armpits. She could not lie down, and what sleep she obtained was while standing. All the food she had was a solitary cracker and an onion, which floated on the water. She stated that after the vessel capsized, and was abandoned by the crew, she found herself alone in water waist deep. The cabin door was open, but the water was two feet above it, and the sea made constant changes in her position. While Captain Wilkins stopped, she could hear the boarding party talk, and walk on the vessel, and although she used her voice to the utmost to attract attention she could not make them hear. She saw the pole thrust into the cabin door by Captain Henton, and asked if she should hold on it and be pulled out, but no answer came.

"This event occurred 45 years ago," continued Captain Jones, "and I never heard of a parallel case, either on the lake or other waters, and her salvation from drowning may be regarded as little less than a miracle."

*New Vessels.*—The new steamer Uncle Sam commenced plying between Detroit and Buffalo, calling at intermediate landings, early in the spring of 1833, commanded by Capt. L. Stiles. She was 280 tons burden, low pressure, with walking-beam engine.

In 1833 the steamer Britannia, of 200 tons, was built at Kingston, Canada, and launched, as were also the Cobourg, of 500 tons, the Kingston and the Brockville, each being named after the place at which she was built.

*Some Events of 1833.*—The first steamer that arrived at Saginaw is said to have been the Governor Marcy, of 161 tons, commanded by Capt. R. G. Mackenzie. She went upon a regular route to that port about 1837. In March, 1833, a revenue cutter of 62 tons was landed at Erie, and the Col-

lector gave it the name of Lewis McLane, but the Secretary changed it to Erie.

*Other Events of 1833.*—April: Navigation open at Cleveland April 7. Congress appropriates \$31,700 for the improvement of Buffalo harbor. July: Schooner John Q. Adams, Capt. B. Stanard, struck by lightning near Fort Gratiot; three lives lost. September: Schooner New Connecticut capsized on Lake Erie and sunk; one life lost. October: Steamboat George Washington, Captain Walker, wrecked near Long Point; loss about \$60,000; no insurance. Steamboat Governor Marcy launched at Black Rock. Schooner Utica, of Detroit, capsized near Erie, and drifted ashore at Elk creek. Schooner Alert, Captain Randall, ashore near Buffalo. Schooner Eagle, Captain Wilkinson, aground at Buffalo. Schooner Louisa Jenkins, Capt. Royal Pember, wrecked at Point Albino. Schooner America, Captain Foster, lost deck-load during a storm on Lake Erie; 17, schooners Young Amaranth, Bolivar and Recovery damaged during the storm on Lake Erie. Oswego packet ashore near Point Frederick. Schooner John C. Spencer launched at Buffalo. November: Steamboat General Porter launched at Black Rock. Steamboat Oswego launched at Oswego. December: 2,975 arrivals and departures at Buffalo during the season.

1834.

*Trip of the Illinois to Chicago.*—In the winter of 1833-34 Augustus Pickering, of Sacket's Harbor, N. Y., built a schooner as large as could be gotten through the Welland canal—length 80 feet, breadth 20 feet, and depth of hold 8 feet. It was called the Illinois, and sailed from Sacket's Harbor May 12, 1834, with 104 passengers, George L. Dickinson and his young wife, of Muskegon, Mich., being among the number. The cargo consisted of the household goods and farming implements of the passengers. The Illinois arrived off the mouth of the Chicago river about June 14, but it could neither land nor enter the "harbor," for there was no harbor, only a formidable bar across the mouth of the river. There were no docks, no lights, no tugs, and the pass-



engers and light goods were put ashore by means of the vessel's yawls, the heavier goods going by raft, as the weather would permit.

After the cargo of the little schooner had been discharged, the people told Captain Pickering that, as he had been gallant enough to name his vessel after their State, they wished to acknowledge the compliment in some fitting manner, and proposed to take his schooner over the bar, which showed but four feet of water. After due consultation, the idea was decided to be feasible. Accordingly her anchors were carried out, a purchase rope to windlass and with vigorous shouting, rolling of the schooner's booms, and heaving at the windlass, the deed was done, and the Illinois floated proudly in the port of Chicago, the first vessel of its size that ever graced the harbor.

With regard to the Illinois, W. B. Camp says: "I remember seeing her equipped with farming and household effects from the deck to masthead. Wagon wheels were so locked to shrouds that men could climb to topmast on them. Captain Pickering was so highly esteemed that our pioneers felt secure and in the hands of a capable navigator and watchful guardian, who could be trusted to lead them to their new homes, not yet made. We repeat now a reminiscence of that period. A very 'per-lite' young gentleman had visited the outgoing vessel, and gave to a lady his description of the animated and picturesque scene, as follows: 'I have just seen Capt. Pickering on board the Illinois. The cabin is full of wimming, the rigging full of waggings, and the Capt. says they are going out immediately.'

"Pickering was a terrible man, imbued with a spirit of adventure and enterprise that charged his whole nature. His next vessel, called the Niagara, was much larger than the Illinois. This he built with a rounding stern, to better fit the locks. She, too, was loaded with passengers for the West. When his vessel reached the Welland canal, he discovered that the locks would not receive her, she being about one inch too wide amidships. He agreed with

his brother-in-law, Winslow, that it was feasible to take that much from her sides, and began the work. Neither rest nor sleep came with the mortification of this event, till death came by his own choice, and before his vessel made her successful exit from the canal."

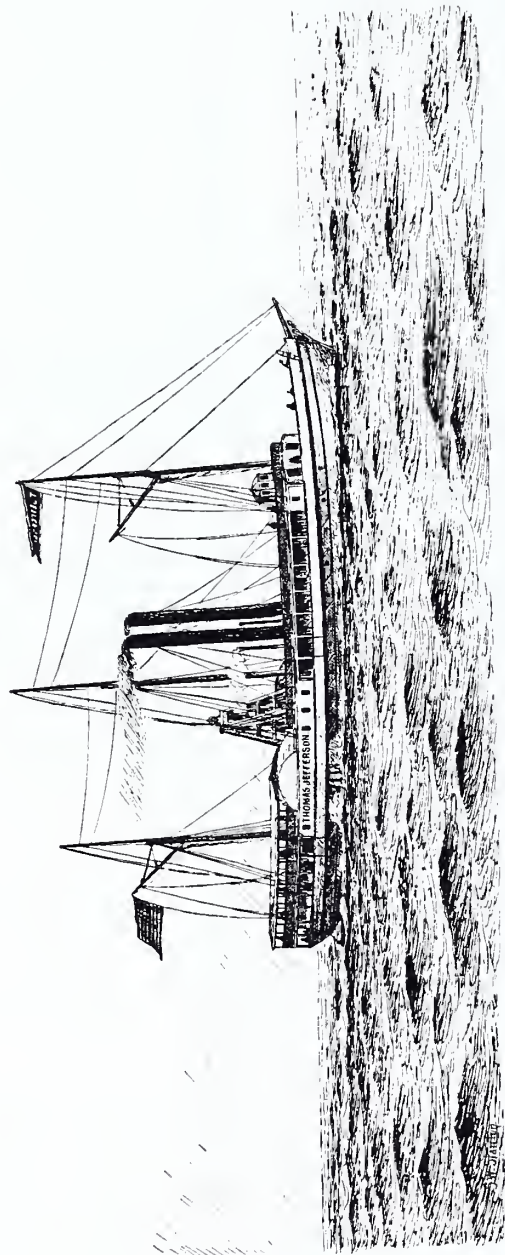
*First Steamer on St. Joseph River.*—A steamer commenced in 1834 on the St. Joseph river, created quite a sensation on her first trip. The banks of the river were, in many places, crowded with spectators, whose loud acclamations manifested the joy they experienced in witnessing the first attempt to introduce a steamboat on that beautiful river. She was called the Matilda Barney, and on her first trip had upward of a hundred passengers aboard, besides 10 or 12 tons of merchandise. Her draught of water was 13 inches. Another steamer was soon after placed on the route, and property along the river was much enhanced in value.

*Season Opens at Mackinaw.*—"About 8 o'clock this morning," writes Schoolcraft, at Michilimackinac, under date of March 14, 1834, "a vessel from Detroit dropped anchor in the harbor, causing all hearts to be gay at the termination of our wintry exclusion from the world. It proved to be the Commodore Lawrence, of Huron, Ohio, on a trip to Green Bay. Our last vessel left the harbor December 18." Under date of April 17 he adds: "The schooners Lawrence, White Pigeon and President left the harbor this morning on their way to various ports on Lake Michigan, and we are once more united to the commercial world on the great chain of lakes above and below us. The Lawrence entered the harbor March 14, and has waited 32 days for the harbor to open."

*Some New Vessels.*—The Mazeppa, 130 tons, high pressure, was built at Buffalo, in 1834, and the Little Western, of 60 tons, high pressure, at Chatham, in the same year, both for the Detroit and Chatham route. The Sandusky, of 377 tons, low pressure, was also built that year at Sandusky and completed at Buffalo.

The Jack Downing, built at Carthage, in 1834, by Paul Boynton, was drawn over





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**STEAMBOAT THOMAS JEFFERSON.**

Built at Erie, Pa., in 1834. Crosshead engine, 150 horse power, placed in the steamboat Louisiana in 1846, and lost with her in 1858.



to Sacket's Harbor on wheels. She was afterward used as a ferry boat. The steamer Victory, a small high-pressure vessel, came out new this year and plied between Buffalo and Niagara Falls, commanded by Capt. John Hebard, who was also engineer. The steamboat Thomas Jefferson, 428 tons, low pressure, was built at Erie, and finished at Buffalo. The Michigan, built for O. Newberry, came out new this season, and made a grand excursion tour of 2,000 miles, visiting Mackinac, Green Bay, and all other ports on either shore of Lake Michigan; she was absent from Detroit 13 days.

The steamer Oswego was built at Oswego by William Young, ship carpenter. On her first trip in May, 1834, she was driven ashore some three or four miles west of Oswego, in a snow storm, while in command of Captain Macy. She was got off, but proved a failure. Her engines were taken out and placed in the new steamer St. Lawrence. The steamer Black Hawk was built at Clayton, N. Y., and not long after her name was changed to Dolphin.

*Other Events of 1834.*—The Steamboat Association that year was composed of 18 boats, costing \$600,000, seven new ones having been added. Three trips were made to Chicago, and two to Green Bay. Navigation opened at Buffalo, April 6. The first clearance at Detroit was on February 15. The aggregate tonnage at Detroit in 1834 was 4,009 tons. Arrangements were perfected in 1834 by proprietors of steamboats, whereby one steamboat a week visited Chicago. The steamer Uncle Sam was the first to lead off. The steamer Pioneer was taken from Lake Erie to Chicago, to ply between that port and St. Joseph, beside four or five sail vessels that were employed carrying passengers and freight. July: Steamboat Thomas Jefferson launched at Erie. Steamboat New York damaged by bursting her steam pipes near Erie. Schooner Lady of the Lake foundered on Lake Erie; several lives lost. Steamboat Pioneer wrecked at the mouth of St. Joseph river; crew and passengers rescued by the schooner Marengo, Captain Dingley. August: Steamboat Daniel Webster damaged by breaking of machinery on Lake Erie. September: Schooner Nancy

Douseman arrives at Buffalo with a cargo of furs valued at \$265,000. November: Steamboat Chas. Townsend launched at Buffalo, owned by Townsend, Coit & Co. Schooner Prince Eugene wrecked near the mouth of St. Joseph river. December: Steamboat Kingston sunk on Lake Ontario.

1835.

*Terrific Storm of November, 1835.*—

The season of 1835 wound up with one of the most terrific gales that ever visited the lake region, and, in proportion to the number of vessels employed, caused a greater destruction of life and property than ever before. It occurred November 11. The wind was west-southwest and, it is said, announced its approach like the sound of an immense train of cars. At Buffalo the creek rose to a height of 20 feet, floating steamers and vessels into some of the main streets, crushing canal boats under bridges, while on the west side of the harbor dwellings were swept away and the occupants drowned.

A vessel called the Free Trader, with 13 passengers on board beside the crew, took her departure from Fort Burwell, Canada, for Cleveland, and was struck by the gale and twice capsized, righting each time. After the storm she was discovered drifting off Dunkirk, and was taken into that port with one sailor still alive and clinging to the tiller. Among the passengers was Mr. Richardson, owner of the cargo.

The schooner Comet, of Buffalo, left Madison dock, below Fairport, with fifteen tons of iron and five tons of ashes. The crew consisted of six sailors, and there was one passenger. She is supposed to have foundered off Dunkirk, as two topmasts were afterward seen in that locality, and several articles, recognized as belonging to them, floated ashore.

The steamboat North America was driven on the beach at Erie. She was commanded by Capt. G. Appleby. The steamers Sandusky, Henry Clay and Sheldon Thompson were floated on the bank in Buffalo barbor and seriously damaged. The North America, prior to going ashore, had let go her anchors and attempted to ride out the gale at Erie, but the wind, increasing in

its fury, soon parted her cables, while the passengers and crew gave themselves up as lost, but it was suggested to scuttle the boat to prevent her jumping over the pier, and to this action the salvation of the boat may be ascribed. The schooner *Two Brothers* was landed on top of the Buffalo pier and became a total loss.

Vessels which were outside, as soon as the cyclone set in, tried to reach the nearest port, and when forced to Buffalo, on entering the harbor an immense amount of damage was done, as the creek at that time was crowded with vessels. Boats were run into and sunk, while the whole extent of the loss of life ranged far into the hundreds. Among the schooners ashore at Buffalo were the *Tecumseh* and the *Col. Benton*. The flood was the highest known since 1816 and the most destructive. Wharves and piers at various lake ports were demolished, and scarcely a vestige left. At Portland harbor two persons were drowned from the pier on account of the sudden approach of high water. The schooner *Godolphin*, freighted with salt, was wrecked at Fairport and crew lost.

The schooner *Lagrange*, a fine vessel, commanded by Captain Chancois, with a full cargo of merchandise from Buffalo for Detroit, was capsized near Point Pelee and sunk about seven miles from shore. All perished except a man and boy, who were taken off the mast next morning, nearly frozen to death. The vessel was never recovered.

The storm on Lake Ontario was very severe, and the casualties large. On that lake the schooner *Robert Bruce*, which left Kingston, Canada, for some port up the Bay of Quinte, in ballast, was wrecked and all on board were lost. The wreck, after the storm, drifted ashore on Henderson Point, and the coat of a passenger, *Elias Everett*, was found hanging to a nail, and his wallet, containing \$719, was recovered. The schooner *Medora*, owned in Oswego, from up the lake, laden with wheat and walnuts, went ashore at the mouth of Big Sandy creek, and all hands were lost.

Among the vessels lost on Lake Michigan during that storm were the schooners *Chance*,

*Bridget*, *Sloan* and *Delaware*. On the *Chance* seven lives were lost; on the *Bridget*, 16; on the *Sloan*, six. The *Bridget* was wrecked near St. Joseph.

*Schoolcraft* bears testimony to the skill of the old-time captain during this storm. He embarked November 2, 1835, at Mackinac for Detroit, "on board a schooner under command of an experienced navigator (Captain Ward) just on the eve, 'unknown to us, of a great tempest, which rendered that season memorable in the history of wrecks on the Great Lakes. We had scarcely well cleared the lighthouse, when the wind increased to a gale. We soon went on furiously. Sails were reefed and every preparation made to keep on our way, but the wind did not admit of it. The captain made every effort to hug the shore, and finally came to anchor in great peril, under the highlands of Sauble. Here we pitched terribly, and were momentarily in peril of being cast on shore. In the effort to work the ship, one of the men fell from the bowsprit, passed under the vessel and was lost. It was thought that our poor little craft must go to the bottom, but owing to the skill of the old lake mariner we eventually triumphed. He never faltered in the darkest exigency. For a day and night he struggled against the elements, and finally entered the strait at Fort Gratiot, and he brought us safely into the port of our destination."

*Other Events of 1835.*—On July 21, 1835, at a meeting of the directors of the Grand River Navigation Company, it was ordered that the first steamboat of not less than 15-horse power that should ply on the Grand river from Dunnville to the head of navigation when opened, should be allowed to pass toll free through the locks of this canal as long as she should ply thereon. The steamboat *Commodore Perry* exploded twice at Buffalo and on Lake Erie, killing six persons. Business gradually increased, emigration continued to assume a lively aspect, moving to the Far West, while sail vessels as well as steamers carried a fair share of that class of travelers. Five steamers were added to the lake tonnage. January: Steamboat *Daniel Webster* damaged



by fire to the extent of \$8,000, at Buffalo; owned by Pratt, Taylor & Co. March: Steamboat General Porter sunk at Black Rock. April: Navigation opened between Detroit and Cleveland. April 1; schooner Agnes Barton launched at Buffalo, 110 tons burden, owned by J. L. Barton; schooner La Porte launched at Buffalo, 150 tons burden, owned by A. Eaton; steamboat Susquehannah launched at Oswego; steamboat Great Britain driven ashore near Toronto during a storm. June: Steamer Wm. Peacock ashore during a severe gale near Dunkirk; steamboat Commodore Perry disabled by explosion of steam pipes near Buffalo. September: Steamboat Commodore Perry disabled by bursting her boiler near Detroit, taken in tow by steamboat Daniel Webster; five lives lost; steamboat Michigan stranded at mouth of Detroit river, released; sloop Express, Capt. Wm. Cornwall, wrecked at Dunkirk during a severe gale. November: Steamboat Columbus, Captain Walker, ashore near Erie; steamboat Daniel Webster damaged by collision with piers at Grand River.

1836.

*Loss of the Steamboat Delaware.*—Lake casualties in 1836 were less numerous than during the previous season. The most important loss was that of the steamboat Delaware. The Delaware was owned by Capt. George J. King, who had purchased her a short time previous to the wreck. She was lost on Lake Michigan in June, during a violent storm. The Delaware took her departure from St. Joseph for Chicago, was caught in the storm, sprung a leak, and was driven ashore about 10 o'clock at night, eight miles from where she cleared, and soon became a total wreck. The passengers and crew were all saved. The ship Milwaukee was out in the same storm, but arrived at Chicago with the loss of her fore-top-gallant-mast. The Owanungah, a three-masted schooner, and the first on the lakes, in the same gale slipped her cable, about 30 miles from Chicago, went ashore and bilged. She was commanded by Capt. Augustus Todd, and had on board a full cargo of merchandise. She was released, however,

and was in service many years afterward. The schooner Agnes Barton lost her foremast, and the schooner Sea Serpent was driven ashore at Michigan City, but subsequently got off. The steamer Colonel Crocket was lost in a gale at St. Joseph, and the steamer Don Quixote in a gale on Lake Huron. The steamboat W. F. P. Taylor took fire near the mouth of Cataraugus creek, Lake Erie, and was partially destroyed, but afterward rebuilt.

*Launch of the Manhattan.*—There was launched at Detroit, August 20, the brig Manhattan, the largest square-rigged vessel then on the lakes. A description of this launch, occurring over sixty years ago, may not be uninteresting. A newspaper account is as follows: At 10 o'clock in the morning of August 20, 1836, a large number of people gathered at the shipyard of Oliver Newberry, of Detroit, to witness the launching of the brig Manhattan, the largest square-rigged vessel on the lakes. At the appointed time the steamboat Michigan, on her return trip from Chicago, hove in sight, loaded with passengers and a fine band of music, which gave additional life to the scene. A pause was made to give her time to come in and take her place for the witnessing of the spectacle, after which strains of lively music proceeded from her decks. About half-past 10 o'clock the blocks were knocked away, and the noble brig descended to her destined element amid the shouts of hundreds of citizens. The morning was pleasant, and the large number of people, the playing about of numerous small craft upon the river, the lying at anchor of sister schooners crowded to the mast-heads with spectators, the arrival of the Michigan at the timely moment, all blended, making the appearance one of heartiest cheer. When newly launched the Manhattan was pronounced by all connoisseurs in the art of shipbuilding to be the best in point of model and strength ever committed to the western waters. Her length of keel was 93 feet, depth of hold 12 feet and breadth of beam 28 feet.

*A Trip to Chicago.*—A Chicago pioneer, J. M. Hannahs, describing a trip to Chicago in 1836, said: "At Buffalo we went on



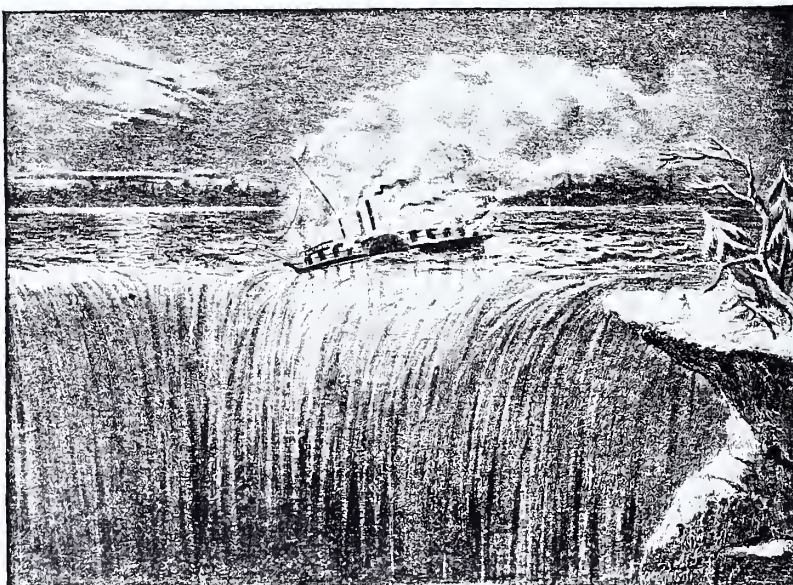
board the steamboat Oliver Newberry for Detroit. Steamboats in those days only ran through to Chicago about once in three weeks. At Detroit we took passage on the schooner Edward Bancroft, which proceeded to Black River, now Port Huron, and there loaded with lumber for Chicago. On the Canada side of the river above Detroit were many windmills, and above Lake St. Clair, on the same side, for many miles were little log houses of uniform construction, which were built by the British Government for their Indian friends. From Port Huron we ran through stormy Lake Huron and anchored at Mackinaw. On the high bluffs stood the fort, manned by soldiers, and there were various missionary stations, and hundreds of Indians having a fleet of beautiful bark canoes, which, together with the wild scenery on the island beyond the fort, were objects of great interest. Those bark canoes were an important part of navigation in those days on the Great Lakes. From Mackinaw through the straits to the eastern shore of the territory of Wisconsin we coasted along for hundreds of miles in full view of the dark, uninhabited, and forbidding forests of that now great State, until we came within about 100 miles of Chicago, where we found ourselves scudding before a northeast gale with a heavy sea, which pursued us into Chicago; or, rather, to the bar at the end of the piers, which were then under construction, and where we stuck fast. We were nineteen days on the passage to Chicago."

West of Lake Erie, in 1836, there were but two collectors' districts—Detroit and Mackinac—but the coasting trade was principally connected with the former.

*Other Events of 1836.*—April: The pier at Black Rock severely damaged by floating ice; 15. navigation opened at Buffalo; brig Illinois sustains injuries on Lake Erie; steamer Oliver Newberry leaves Cleveland for Detroit April 13, thus opening navigation on Lake Erie; Welland canal opened April 22, and Oswego harbor clear of ice; schooner Chicago launched at Grand Island Company's shipyard, at White Haven, 140 tons burden. May: schooner James G. King launched at Dunkirk. Owned by Col. W.

Smith and built by Captain Jones, of Black River, 170 tons burden; intended expressly for trade on the upper lakes, and first commanded by Capt. C. Stillman. schooner Julia Palmer launched at Buffalo; dimensions: 100 ft. x 26½ ft. x 10 ft., and 300 tons burden. Owned by Col. Alanson Palmer, and first commanded by Capt. Robert Wagstaff. Ship Milwaukee launched at Grand Island; 300 tons burden; built for Chicago and Buffalo trade; first commanded by Captain Dickinson. Steamer United States ashore near Erie. Steamer William Penn ashore below Erie. Sloop Clarissa launched at Chicago; first vessel built at that port. June 17: Schooner John Richards, owned by Sears & Ruden, capsized and sunk in attempting to enter Buffalo during a severe gale. Schooner Hudson launched at Oswego, 125 tons burden. Schooner Toledo launched at Buffalo, 220 tons burden. July: Schooner Young Lion, in command of F. T. Moran, wrecked and sunk near Erie. August: Steamer Sheldon Thompson severely damaged by collision with the steamer Monroe on Lake Erie. Keel of steamboat Buffalo laid by John Carrick, of Buffalo. Schooner Philadelphia, 120 tons burden, launched at Erie. Schooner President, bound from Buffalo to Cleveland, capsized during a gale; four lives lost. Schooner White Pigeon, in command of Captain Newhall, capsized and sunk near St. Clair Flats; no lives lost. September: Steamboat Daniel Webster disabled on Lake Erie, and towed to Cleveland for repairs. Steamboat Commodore Perry, in command of Captain Wilkison, damaged by collision with the steamboat Uncle Sam near Sandusky. Steamboat Gen. Porter sunk at Dunkirk by collision with a rock. October: Schooner Florida wrecked near Black Rock during a storm. Schooner North America capsized on Lake Erie during a severe storm. December: Steam packet James Madison launched at Erie; 700 tons: built by Captain Richards, and owned by Col. C. M. Reed; built for trade between Buffalo and the upper lakes. Ship Milwaukee ashore near the entrance of Sandusky bay. Schooner Texas ashore near Cedar Point.





*Cassier's Magazine.*

STEAMER CAROLINE, BURNED AND SENT OVER NIAGARA FALLS IN 1837.



1837.

*The Canadian Rebellion* broke out toward the latter part of 1837. It was a result of dissatisfaction among the people of Canada with the British Government. This discontent was not confined to the people of Upper Canada, but what existed in the Lower Province was quickly suppressed. It was a time of great excitement, and false rumors rapidly spread. There was then no telegraph in the country to circulate either falsehood or truth, and the latter was slower even than now in overtaking the former.

The "patriots" collected their forces on Navy island, about two miles above Niagara Falls, and from their headquarters issued proclamations which caused prompt action on the part of the Canadian Government. A call for 2,500 troops was issued by Governor Sir Francis Bond Head, for the purpose of putting down the Rebellion. The rebels were led by William Lyon Mackenzie, an ex-member of the Provincial Parliament, who after an unsuccessful outbreak a short distance north of Toronto, had fled to Buffalo dressed in woman's clothes. In Buffalo, in December, 1837, meetings were held, at which addresses were made by him and by Thomas Jefferson Sunderland, and others, all calculated to awaken sympathy for the "patriots" on the island. They had collected on Navy island, because of the convenience of access to the landing of Schlosser, or Schlosser's dock, as it was called. On this island there were assembled from 300 to 400 men, a considerable portion of whom were Americans. Their commander was Gen. Rensselaer Van Rensselaer, a son of Solomon Van Rensselaer, who was wounded at Queenston Heights.

In response to the call of Sir Francis Head the 2,500 men assembled on the banks of Niagara river near the mouth of Chippewa creek, opposite Navy island. In Buffalo the United States marshal appointed 30 deputies to prevent violations of the neutrality laws. The winter was an unusually mild one, and the steamer *Caroline*, belonging to William Wells, of Buffalo, went down to Navy island and ran back and forth between that island and Schlosser's

dock, carrying men and supplies. The steamer *Caroline* had been built in Charleston, S. C., in 1822, of live oak, and was of about 45 tons burden. She had made two trips, and had tied up at the dock for the night, during which a force of Canadians cut her out, set her on fire and sent her over Niagara Falls. The trips of the *Caroline* had been watched by the British from their camp near the mouth of Chippewa creek, and Col. Allan McNab determined to cut off this method of supplying the "patriots" on Navy island. It was an extremely hazardous undertaking, owing to the fact that Schlosser's dock was so near the Falls that almost any mishap might precipitate the expedition itself over, instead of the steamer *Caroline*. Captain Drew, however, obtained permission from Colonel McNab to organize an expedition for the purpose of destroying the *Caroline*, and secured a company of young men to form it. In all seven boats were manned. This expedition proceeded up the river a short distance before crossing, and after passing the middle of the stream they were given orders as to the disposition of the *Caroline*. Two of the boats lost their way, but the other five kept together and pulled up to the wharf at Schlosser's.

The sentry on the deck of the *Caroline* challenged the approaching party, but received no reply, either to his first or to his second challenge, hence he fired upon them and then ran ashore. By the noise of the shots the people on board the steamer and those on shore were aroused from their slumbers, a brief battle ensued, in which Amos Durfee, an American, fell to the ground shot through the brain. The attacking party secured possession of the *Caroline*, took her out into the middle of the river, set her on fire and sent her over the Falls, after making sure there was no one on board. Ablaze as she was, she attracted great attention, lighting up both sides of the river, and presenting a scene never to be forgotten by those who witnessed it. As she went down to her final plunge she was a most fascinating sight.

The steamer *Caroline* had been added to the tonnage of Lake Ontario in 1824, and

in various records of her history there is a wide difference as to her origin. Her birth-right is claimed both at Kingston and Ogdensburg. She was built, however (as already related), at Charleston, S. C., of Norway pine, copper fastened. She came to Buffalo in 1835, and commenced running between that port and Port Robinson, on the Welland canal *via* Chippewa, commanded by Capt. James Ballentine. She was 46 tons burden, low pressure, with cross-head engine. At the commencement of the Canadian rebellion in December, 1837, she was chartered to transport supplies from Buffalo and Navy island, some three miles above Niagara Falls, which was the headquarters of the Canadian refugees.

*Niagara Falls Runs Dry.*—A circumstance occurred on the opening of navigation in 1837, that, so far as is known, never before took place. The Niagara river, between Fort Erie and Buffalo, was so wedged in with ice that the waters of the lake in consequence rose several feet, while the Niagara river fell so low that numerous rocks and islands, before invisible, made their appearance. The waters of Chippewa creek were also lowered several feet.

*Other Events of 1837.*—The steamer James Madison, Capt. R. C. Bristol, commenced plying between Buffalo and Chicago in 1837, and was the first boat to pass through Mackinaw straits on the opening of navigation that season. January: Schooner John Hollister fast in the ice on Lake Erie and abandoned by the crew. February: Steamer New England launched at Black Rock. March: Steamer Tiskillwa sunk by collision with the steamer Wisconsin near the Illinois river; several lives lost. May: Steamer Monroe ashore above Point Albino. Schooner Commodore Laurence damaged by lightning at Huron. Steamer New England damaged by collision with the piers at Buffalo. June: Schooner Tom Lemen launched at Cleveland; 90 tons burden. Steamer Cleveland launched at Huron; 600 tons burden. July: Steamers Niagara and Pennsylvania collide near Huron; 19, the Milwaukee launched at Grand island. Steam lighter The Badger launched at Milwaukee. Steamers New York and New England collide at

Dunkirk. August: Steamer Buffalo launched at Buffalo Creek; 670 tons. Brig North Carolina capsized on Lake Michigan; several lives lost. Steamer Manhattan launched at Buffalo. Schooner Western Trader capsized and sunk off Cleveland. Schooner Adelaide launched at Ashtabula; 150 tons. Brig Rocky Mountains launched at Green Bay; 280 tons. The schooner Union, of Port Hope, totally wrecked, but none of her crew was lost. Schooner Henry Roop damaged by lightning at Ashtabula. Schooner Rainbow driven ashore and wrecked at Put-in-Bay island. Schooner Ceres sunk off Chagrin river. September: Steamer Illinois launched at Detroit; 755 tons; the largest boat on the lakes. Schooner Tippecanoe ashore near Cleveland. October: Schooner E. Jenny ashore near Cleveland. Steamer Erie launched at Erie. Steamer Boynton wrecked at Kingston. Steamer Com. Barrie damaged during a storm on Lake Ontario. Steamer Utica ashore at Presque Isle. Schooner Massachusetts wrecked near the Niagara river. November: Steamer Wisconsin launched at Conneaut. Schooner Toledo ashore at Gravelly bay. Schooners O. P. Starkey, Brandywine and Texas ashore at Buffalo.

The navigation of 1837 wound up with a very destructive gale, such as is rarely recorded, raging throughout the entire lake region. It came from west-southwest and at Buffalo much property and many lives were lost.

1838.

*The Canadian Rebellion (Continued).*—Immediately after the destruction of the Caroline, in December, 1837, a meeting was held at Buffalo, at which speakers denounced the outrage, and on January 3, 1838, the grand jury at Lockport, N. Y., indicted Sir Allan N. McNab and his companions for what they called "the Schlosser murder," viz.: Sir Allan Napier McNab, speaker of the House of Assembly; John Mosier, formerly captain of the steamer Niagara; Thomas McCormack, and others making an attack on the Caroline. Martin Van Buren, President of the United States, made a demand for redress "for the de-



struction of property and the assassination of citizens of the United States on the soil of New York at Schlosser's."

Meanwhile General Thomas Jefferson Sutherland went to the upper end of Lake Erie with the view of invading Canada across the Detroit river, and Colonel Worth went up the lake on the steamer Robert Fulton to prevent such a movement. But Colonel Worth's expedition could get no further than Erie, because cold weather came on and the lake became frozen over.

On February 12, 1838, there was a meeting of citizens in Buffalo presided over by Dyre Tillinghast, which asked Congress "that there be a redress for the Caroline massacre." On April 15, 1838, a Mr. Dawson, of Niagara, was arrested in Youngstown, and a warrant issued by Justice Race, upon which Mr. Dawson was committed to Lockport jail for trial.

On the other hand, at the annual meeting of St. George's Society the flag of the Caroline hung as a trophy behind the chair of the president, and the officers of the government present applauded. Captain Marryat, the novelist, proposed as a volunteer toast the following: "Captain Drew and his brave comrades, who cut out the Caroline," which toast was received with great applause.

*Steamer Sir Robert Peel Plundered and Burned.*—In retaliation for the burning of the Caroline, on the night of May 29-30, the British steamer Sir Robert Peel was plundered and burned at Well's island. She was built at Brockville, at a cost of \$44,000, and first came out in June, 1837. She was 160 feet long and 30 feet beam, and was commanded by John B. Armstrong. She was on her way from Prescott to Toronto, carrying nineteen passengers, and had left Prescott in the evening, which was dark and rainy. She arrived at McDonell's wharf on the south side of Well's island at midnight for the purpose of taking on wood. The passengers were asleep in the cabin, and the crew had been engaged about two hours in taking wood, when a company of 22 men, disguised with paint as savages, and armed with muskets and bayonets, rushed on board, yelling and shouting "Remember

the Caroline!" They soon drove the passengers and crew on shore, allowing but a hasty opportunity for them to remove a small portion of their baggage. Toward morning having cast off the boat into the stream to the distance of about 30 rods they set her on fire.

The scene of confusion and alarm, which was caused by this midnight attack, can be imagined. Some of the passengers fled on shore in their night clothes, a considerable portion of their baggage being lost. After the boat was fired in several places, the party, including Thomas Scott (a surgeon who had remained to dress a wound), got into two long boats and steered for Abel's island, four miles from Well's island, where they arrived about sunrise. Dr. Scott stated that there were 22 persons besides himself and the wounded man in the two boats. These brigands were known to each other by such fictitious names as Tecumseh, Sir William Wallace, Judge Lynch, Captain Crocket, Nelson, Captain Crocker, Bolivar, and Admiral Benbo. Several thousand dollars in one package, and also smaller sums, were taken from the boat, together with various articles of clothing.

The only house in the vicinity of the wharf was the woodman's shanty. Here the passengers found shelter until 5 o'clock in the morning, when the Oneida, Captain Smith, came down on her regular trip and found the passengers in their distressed situation and took them on board, carrying them to Kingston.

It was said to have been the intention of the captors of the Peel to capture the steamer Great Britain, the next day, and to cruise in these two steamers on the lake, transporting troops and supplies to the "patriot" bands. The acknowledged leader of these infamous outlaws was William Johnston, better known then as "Bill" Johnston, who, since the war with Great Britain, had been known on the lakes as a fanatical enemy of Canada, and who was, at a moment's notice, ready for any broil that would afford him an opportunity for mischief and injuries he claimed to have received from that government. He was born at Three Rivers, L. C., February 1,



1782, and from 1784 to 1812 lived at Kingston, where he was engaged as a grocer, and at the outbreak of the war was connected with a military company. He was seized on a charge of insubordination and lodged in jail, from which he escaped and fled to the American side. He acted as a spy, and on one occasion robbed the British mail, containing important official dispatches, which he safely conveyed to the military commandant at Sacket's Harbor.

Upon learning of the outrage of the burning of the Sir Robert Peel, Governor Marcy immediately hastened to the county of Jefferson, and on June 4 offered a reward of \$500 for William Johnston, \$250 each for David McLeod, Samuel C. Frey, and Robert Smith, alleged to have been concerned in the destruction of the vessel, and \$100 each for others who might be convicted of the offense, and, in a letter to the Secretary of War of the United States, he invited the co-operation of the government with that of Canada in pursuing the offenders.

On June 2, the Earl of Durham, captain-general of the British military force in Canada, issued from Quebec a proclamation offering a reward of \$1,000 for the conviction of any person actually engaged in or directly aiding or abetting this outrage. His Excellency, Lieut.-Col. Sir John Colborne, arrived at Brockville, on the 5th of June, to direct any measures that might be deemed necessary to take.

Several arrests were made, all being charged with having taken part in this affair. On June 23, the trial of these prisoners began at Watertown with that of William Anderson, who was indicted for arson on six counts. This trial was conducted before John P. Cushman, one of the circuit judges, Calvin McKnight, Benjamin Wright and others, and excited extraordinary interest. When the case was submitted to the jury they, after a deliberation of two hours, brought in a verdict of not guilty.

Soon after the news of the burning of the Sir Robert Peel reached Washington, Major-General Macomb was sent to Sacket's Harbor to take such measures as he might deem necessary and proper. On June 20,

General Macomb sent word to Sir John Colborne, or the officer in command at Kingston, inviting his co-operation in a search among the Thousand Islands for the persons who had plundered and burned the Peel. About one week afterward Colonel Dundas, of the British army, commandant at Kingston, and Captain Sandom, of the Royal Navy, crossed over to hold an interview, which interview resulted in an agreement for a joint effort to be made July 2 to arrest the parties. After a search of several days their retreat was discovered, but in attempting to capture them, all but two escaped, the gang consisting at the time of eight men, of whom Johnston was one.

*The Affair at Prescott.*—On the 11th of November the steamer United States touched at Sacket's Harbor, having on board 150 male passengers, who carried with them but little baggage. At Sacket's Harbor they were joined by 20 or 30 more, and at Cape Vincent 10 or 11 more got on board. A little below Millen's Bay the United States overtook the Charlotte, of Oswego, and the Charlotte, of Toronto, two schooners which had left Oswego on the 10th, while the United States was in port. Taking them both in tow and proceeding down the river, all with plenty of the munitions of war on board, and all destined for Prescott, the battle of Windmill Point followed. Many "patriot" prisoners were taken by the British, and they were conveyed to Fort Henry, at Kingston, where they were tried by court martial, which began its session November 26, 1838. The rule adopted by this court was to execute all the officers that were known to be such, try and sentence the rest, relieve the minors and punish the remainder by banishment to the penal colony at Van Dieman's Land.

The court was induced to mitigate somewhat the rigor of their original intentions, possibly by the feeling which had arisen in the United States with regard to the expedition. Meetings were held in various parts of the country, at which prominent men made speeches declaratory of their permanent opposition to all acts of violence, and expressing the friendship they felt for Great Britain and Canada, with whom they de-

sired to live at peace. The grand jury of Jefferson county, at its December term, published a short manifesto deprecating the continuance of secret associations, and a public meeting was held December 18, 1838, to promote peace and harmony on the frontier. At this meeting a series of resolutions was adopted, in which the sentiment of the people was declared to be strongly in favor of peace and friendship, and which called upon the inhabitants of the American side of the line to exert themselves to the utmost in their power to prevent all hostile invasion of the Province of Canada.

Delegations were also sent from various places on the American side to Kingston to secure, if possible, some mitigation of the fate of the prisoners. Ten of the convicted prisoners were hanged; 18 were released; 58 were pardoned; 60 were transported; 4 turned Queen's evidence; 3 were acquitted, and the fate of 10 was not ascertained.

On April 8, 1839, the British steamer *Commodore Barrie*, under orders from Col. A. McDonell, sheriff of Midland District, U. C., arrived at Sacket's Harbor with 22 prisoners, pardoned by the lieutenant-governor. On the 27th of April, 37 more prisoners arrived at Sacket's Harbor.

*Burning of the Steamer George Washington.*—The new steamboat *George Washington*, in command of Captain Brown, took fire on her downward passage below Dunkirk about 2 o'clock Saturday morning, June 16, 1838. In spite of every exertion to save passengers and crew, over 30 persons were burned or drowned. The bulkhead between the boilers and gentlemen's cabin was in flames when the dreadful condition of the boat was discovered. The engine was stopped for the purpose of lowering the yawl, into which the frightened passengers quickly crowded. When ready to be let down, the fastenings at one end gave way and all the occupants were precipitated into the lake. Much time was lost in rescuing the persons thus plunged into the water, detaining the only boat that could take them to land. The yawl was despatched to shore as soon as possible, but did not return in time to take off a second

load, though several persons were picked up, having struggled for a time on floating boxes and planks.

The *North American* was about 15 miles ahead of the *Washington*, and as soon as the flames were discovered, came back to her aid, but not in time to do more than pick up several persons struggling in the water; and to tow the burned hull to Silver Creek. The hull was scuttled and sunk at the wharf, nothing but the blackened timbers of the wheelhouse being visible. No property was saved from the boat. After stopping the engine to lower the yawl, the *Washington* became unmanageable and could not be got under way again. The tiller ropes parted and cut off all access to the engine.

Up to this time few serious accidents had occurred in the navigation of Lake Erie by steam, and none to compare with this in destruction to human lives, although the lake was perfectly calm and everything pointed to a prosperous trip at the time of departure.

The fire is said to have caught from the boilers when the boat was about three miles from shore.

The *Washington* was wholly new, and was on her maiden trip, having been completed but three or four days. She was built at Ashtabula, and was valued at \$40,000, being owned largely by M. Kingman, of Buffalo, and Mr. Hubbard, of Ashtabula.

*Howe's Account.*—The following account of the disaster appears in *Howe's "History of Ohio:"* The prosperity of Ashtabula received a severe shock in the loss of the steamer *Washington*, destroyed by fire on Lake Erie, off Silver Creek in June, 1838, by which misfortune about 40 lives were lost. This boat was built at Ashtabula harbor, and most of her stock was owned by persons of moderate circumstances in this place. She was commanded by Capt. N. W. Brown. A passenger who was on board, a few days after, published the following account of this disastrous event: "The *Washington* left Cleveland on her passage down from Detroit, June 14th, at 8 A. M., proceeded on her way until Saturday, 2 o'clock A. M., when she arrived

in the vicinity of Silver Creek, about 35 miles from Buffalo. The boat was discovered to be on fire, which proceeded from beneath the boilers. The passengers were alarmed, and aroused from their slumbers; such a scene of confusion and distress ensued as those only of my readers can imagine who have been in similar circumstances. Despair did not, however, completely possess the mass, until it became evident that the progress of the flames could not be arrested. From that moment the scene beggars description. Suffice it to say that numbers precipitated themselves from the burning mass into the water; some of them with a shriek of despair, and others sunk silently beneath the waves; others momentarily more fortunate swam a short distance and were drowned; others still, on pieces of board and wood, arrived on the beach; yet some even of them sank into a watery grave. The small boat had by this time put off loaded with about 25 souls for the shore. Those arrived safe, picking up one or two by the way.

"The writer of this article was one of the number. Other small boats came to our assistance, which, together with the Washington's boat, saved perhaps a majority of the passengers on board. There is reason to believe that as many as forty perished. It is impossible to compute the precise number. Many remained on the boat until it was wrapped in one sheet of flame. Of these there is reason to believe that numbers perished in the conflagration; while others half burned precipitated themselves into the watery element, thus suffering the double agency of death by fire and water. Most of the crew were saved, the captain among the number, who, during the awful calamity, acted with the utmost decision and intrepidity. Indeed, no blame, so far as the writer has been informed, has been attached to any officer or hand on the boat. The utmost exertion was used to move her on to the shore, until it became necessary to stop the engine to let down the small boat, which having been done, the fire had progressed so far as to render it impossible to again start the machinery. I give a few particulars of the losses of

the passengers. Mr. Shudds is the only survivor of his family of seven. A lady passenger lost three children, a sister and a mother. Mr. Michael Parker lost his wife and parents, sister and her child. But I will not further continue the cases of individual bereavement."

*The Terrific Storm of November, 1838,* was more severe and disastrous in its effects to the lake shipping than was ever before experienced. The entire lake coast presented a most melancholy appearance, and between Erie and Buffalo was literally strewn with wrecks, some 25 vessels going ashore with serious damage to cargo and hull, among them the schooners Agnes Barton and Toledo, with others belonging to Lake Ontario.

The steamer New England, Captain Burnett, went ashore seven miles below Fairport. She had on board 1,500 barrels of flour and several tons of butter, of which she threw overboard 500 barrels of flour and six tons of butter. She was finally released with total damages of \$10,000. The schooner Toledo, 130 tons burden, Captain Scoville, went ashore one mile below Fairport, and became a total loss. Her cargo consisted of dry goods, worth \$150,000, of which a greater portion was saved, though badly damaged.

The schooner Benjamin Barton went ashore one mile below Conneaut, with a full cargo of merchandise for Chicago. She was 115 tons burden, and commanded by Capt. Augustus Heeler. She was a total loss, but most of her cargo was saved.

The brig Virginia, 115 tons, Captain Douglass, went ashore near Madison dock laden with merchandise; the damage was over \$25,000; the vessel was finally released. The schooner Ralph Granger, 90 tons burden, Capt. D. H. Green, went ashore two miles below Fairport. She was got off with slight damage. The schooner Hiram, 60 tons burden, Captain McKinty, was beached between Madison dock and Ashtabula. The schooner Lodi, 50 tons burden, owned by Oliver Newberry, of Detroit, went ashore in the same locality, but finally got afloat. The schooner Cleveland, of Lake Ontario, went ashore near Ashtabula. The schooner Sandusky, 110 tons, Captain



Davidson, went ashore near Erie, and was got off. The schooner Colonel Benton, cargo of dry goods, went ashore at Dunkirk, and was released without serious damage; the schooner Eagle, Captain Davidson, went ashore five miles below Erie, with no cargo, and became a total loss. The vessel was owned by the captain.

The schooner Lady of the Lake, Captain Shephard, of Vermilion, Ohio, went ashore near Buffalo, and went to pieces. She had a partial cargo of wheat and flour. She was owned by the captain, who, upon finding at Erie that she was leaking, transferred 1,500 bushels of wheat and 40 barrels of flour to another vessel. She was an old vessel and uninsured.

The brig Manhattan, at that period the noblest craft on the western waters, laden with merchandise, was beached near Point Albino, and became a total loss. She was bound for Chicago, sailed by Capt. John Stewart, and owned by O. Newberry, of Detroit. She was a full-rigged brig of splendid finish and design. The greater portion of her cargo was ruined. The schooner Saratoga went ashore near Conneaut.

*Other Events of 1838.* — January 6: Navigation opened at Sandusky by steamer Cincinnati. March: Steamer Osceola was launched at Grand Island; steamer James Allen launched at Chicago, built by Captain Case and engine manufactured by William H. Stow. April: Steamers Buffalo and Commodore Perry collide near Erie; steamer New England aground in Detroit river; the General Brady aground in the River Raisin. May: Steamer Cleveland disabled on Lake Erie; steamers Cincinnati and Milwaukee collide near Cleveland; steamer Lawrence launched at Fairport, 300 tons. June: Schooner Reindeer capsized between Sandusky and Huron, crew rescued by steamer Sandusky; schooner M. Kingman capsized near the mouth of the Detroit river, crew rescued by the steamer Pennsylvania. July: Schooner Learder launched at the Peninsula, 130 tons; steamer Great Western launched at Huron, Ohio, 750 tons. August: Steamer Vermillion launched at Vermillion; schooner Black Hawk capsized off Chagrin, crew rescued by steamer

Robert Fulton. September: Steamer Lexington disabled on Lake Erie near Buffalo; steamer W. F. P. Taylor ashore near Michigan City; steamer Erie aground between Buffalo and Black Rock. October: The schooner Citizen beached near Buffalo; brig Manhattan ashore at Point Albino; schooner Michigan ashore near Michigan City; schooners Bucknor and Ottawa ashore on Lake Michigan. The steamers Perry and Rochester were damaged by collision near Dunkirk; steamer New England ashore near Fairport; schooners Toledo and Ralph Granger beached near Fairport; schooners Swan, Barton, Hiram and Sandusky ashore on Lake Erie; schooner Eagle ashore at Elk Creek. November: Schooner Saratoga ashore near Conneaut; schooner Robert Burns damaged by collision with schooner Bancroft at Ashtabula; schooner S. B. Ruggles ashore near Erie; schooner Shark wrecked near Fairport.

1839.

*Indignities to the Crew of the Girard.*

—The excitement consequent upon the Canadian rebellion of 1837 had not yet wholly subsided during the navigation of 1839, and vessels passing through the Welland canal from American ports were frequently subjected to annoyance from the militia stationed along that waterway. The schooner Stephen Girard, Capt. John C. Hugurin, left Oswego April 15, for Cleveland. She passed through unmolested to the last lock at Gravelly Bay. On her arrival there she was assailed by about 150 soldiers in uniform, under mounted officers. They ordered the captain to haul down the stars and stripes. The captain made no reply, when one of the officers ordered soldiers to cut the halyards, which order was obeyed, but in hauling the colors down they got foul in the cross-trees. The captain was then ordered to send one of his men aloft and haul down the flag. He obeyed. The sailor threw it on deck, and the master under command sent it ashore. He then attempted to get his vessel out of the lock, and when she was nearly through, the officer ordered his men to shut the gates upon her, in which attempt they

caught the small boat, hanging upon the davits, and stove it in. The captain succeeded in making sail, and after receiving a good pelting from stones got away. The soldiers manned a boat and followed the vessel, but did not overtake her. The flag was torn in strips, amid the yells of the soldiers. Subsequently a new flag was sent the master by the Canadian authorities to Cleveland, with a letter denouncing the outrage and deploring its occurrence. The officer and soldiers taking part in the affair were placed under arrest and a court of inquiry instituted. This letter of apology was signed by C. J. Baldwin, the colonel commanding the forces.

*Seizure of the Weeks.*—Another exciting episode was the seizure of the schooner G. S. Weeks, of Oswego, by the Canadian authorities at Brockville. The Weeks had merchandise for that port, and was seized immediately after discharging her freight, under pretext, it was said, of her having on board one piece of State ordnance for a company of State artillery at Ogdensburg. As soon as informed of the seizure, Colonel Worth left Sacket's Harbor in the steamer Oneida for Brockville, with a company of United States troops on board. Colonel Young, the commander, at Brockville, demanded the surrender of the schooner to her owner, but the militia, who had possession, refused to give her up. Aid was sent for to Kingston, and two companies of the 83rd were dispatched to Brockville by steamboat. After the arrival of the troops from Kingston the schooner was surrendered to her officers, upon the formal demand of Colonel Worth.

*Attempt to Burn the Great Britain.*—On June 6, 1839, an attempt was made to burn the British steamer Great Britain, by conveying on board a trunk filled with explosive materials. The explosion designed occurred, but the flames caused thereby were soon extinguished. Lett and Defoe, two Canadian refugees, were arrested, charged with the outrage, confessed to the design of burning the vessel, with the hope of renewing the difficulty between the two governments. For a year or two afterward a steamer was kept in commission on

the lake, and troops were stationed at Madison barracks, for some time after the boat went out of commission. However the troubles came to an end, and there has been no further difficulty between the United States and Canada.

*Loss of the Neptune and Victor.*—A distressing casualty was the loss of the brig Neptune, Capt. John Sims, of Cleveland, at Point au Sable, Lake Michigan, in November. Eleven passengers, comprising four families, were drowned. Five beside the captain reached shore, where they soon after perished. The captain had both feet badly frozen, one of which was subsequently amputated. His mate, John W. Webster, had both legs badly frozen, and they were afterward amputated. The Neptune had on board a general cargo, including, iron, liquor, leather, wagons, etc.

In the latter part of November, the same season, the schooner Victor, laden with 4,000 bushels of wheat, shipped from Michigan City, was lost with all hands on Lake Erie. These were the two most serious disasters of that season.

*Some Fast Runs.*—The steamer St. Lawrence was the fastest boat plying on Lake Ontario during the season of 1839. In a heavy gale, with the sea continually breaking over her, the St. Lawrence made the run from Oswego to Lewiston in 12 hours and 7 minutes, and passengers by her, who took tea in the evening at Oswego breakfasted the following morning in Buffalo. She was long, sharp and narrow, and was propelled by two powerful, low-pressure engines.

During the season there was considerable rivalry in regard to speed, and not unfrequently in company a high pressure of steam was carried. The steamer Cleveland claimed to be the fastest boat, without the necessity of racing, a statement which was inserted in her bills. She claimed to make the run between Cleveland and Buffalo in 14 hours, and from Detroit to Buffalo on one occasion, with a fair freight and 100 passengers, in 21 hours and 38 minutes, the distance being 300 miles. Not long after this, however, the steamer Buffalo, Capt. Levi Allen, made the distance



between Detroit and Buffalo in 19 hours, and carried the broom for the remainder of the season.

*Other Events of 1839.*—The schooner *Globe*, Captain Rosseter, was capsized in a squall six miles off Cleveland. She was from Buffalo, with a small quantity of pig iron on board. The crew was picked up by the schooner *Agnes Barton*. She was subsequently righted and towed into port with no serious damage. The steamer *Great Western*, which came out in 1839, was burned in Detroit in September. She had been in Chicago, and on returning took fire while crossing Lake St. Clair. The flames were apparently extinguished until reaching Detroit, when they burst forth anew, and consumed the boat almost to the water's edge. She was subsequently rebuilt at almost her original cost, which was \$80,000. The steamer *Minnitunk*, a Canadian craft, was sunk by the steamboat *Erie* on Detroit river, above Malden. She was afterward, raised, enlarged, and had her name changed to *Goderich*. The old barkentine *Detroit*, captured by Commodore Perry, in the memorable engagement of 1813, but later on converted into a merchant craft for service on the lakes, was condemned at Buffalo as unfit for further wear. Business on the Erie canal was unusually active, emigrants and merchandise arriving hourly at Buffalo, and creating quite a stir among lake craft. The steamer *Michigan*, which up to this time had been propelled by two low-pressure engines, had one taken out, and was run by only one, making slower time. On the evening of October 11, while the steamboat *DeWitt Clinton* was lying to off Milwaukee, on her passage down, a tremendous gale swept over the lake and capsized her. Four lives were lost. The steamer *Lord Sydenham* ran down the St. Lawrence rapids that season, the first to attempt such a feat. The first vessel to leave Chicago for Buffalo was the schooner *James G. King*, April 19, with 57 passengers. January: Steamer *Cincinnati* leaves Cleveland for Detroit; 16, first departure of the season; returns 17th, being unable to enter Detroit river on account of

ice. March: Navigation opened 16th between Detroit and Cleveland by steamer *Erie*. April: Welland canal opened 1st for the season. Steamer *Cincinnati* ashore near the mouth of Sandusky bay. The *Chautauqua* launched at Buffalo. Steamer *Oliver Newberry* sunk by collision with a rock in the Maumee river. Schooner *S. Juneau* ashore near Milwaukee. The Western trader ashore near Chicago. Steamer *Columbus* first boat to arrive at Chicago this season from lower ports. May: Schooner *Atlas*, of Dexter, in command of Captain Westcott, sunk in a gale near Oswego; seven lives lost. Schooner *Globe* capsized near Cleveland; crew rescued by schooner *Agnes Barton*. July: Schooner *Queen Victoria* launched at Garden island. September: Steamer *Great Western*, of Huron, burned at the dock in Detroit; 800 tons; cost over \$80,000. Steamer *Erie* damaged by collision with the *Daniel Webster* in Detroit river. Severe storms on Lakes Ontario and Erie Sept. 12. Schooner *New York* wrecked on Lake Ontario; wreck went ashore near Port Hope; six lives lost. Schooner *Matilda*, in command of Captain Cameron, ashore on Canada side of Lake Ontario; the captain and three men perished. October: Steamer *Illinois* disabled on Lake Erie and towed to Fairport by the steamer *Rochester*. Schooner *Kingston* ashore on the Isle of Tonti. Schooner *Welland*, ashore at Point Misery, released by steamer *Cobourg*. Severe storm on Lake Michigan. Schooner *Milwaukee* ashore near Little Fort. Steamer *New England* sustains injuries during a storm on Saginaw bay. The *Virginia*, John Kinzie and White Pigeon ashore near Michigan City. November: Schooner *Buffalo* sunk by running on a reef in the Niagara river. Steamer *Brothers*, in command of Captain Eberts, of Chatham, burned. Schooners *Caroline* and *Essex* collide off Sodus, by which the former was severely injured. Schooner *Norton* damaged during a storm on Lake Erie. Schooner *Bolivar* wrecked near Presque Isle; 25, Brig *Neptune* wrecked at Little Point au Sable; many lives lost, among whom were eight members of the crew. December: Toll-fees at Welland canal during the season, \$27,241.67.



The population, in 1839, at certain lake ports was given as follows: Buffalo, 20,000; Erie, 3,500; Cleveland, 8,400; Sandusky, 3,500; Lower Sandusky, 1,500; Perrysburg, 1,600; Maumee, 2,000; Toledo, 2,000; Detroit City, 6,500; Monroe, 3,500; Chicago, 5,000; Milwaukee, 3,500; Michigan City, 1,000; Huron, 1,500; Dunkirk, 1,500. It had quadrupled in eight years time.

1840.

*The Steamer General Harrison* was built at Perrysburg, Ohio, in 1840, during the height of the Presidential campaign of that year. Her first trip to Buffalo was heralded long in advance, and when she was sighted the long wharf began to fill with enthusiastic partisans of the old hero, after whom she was named. Several hundreds were soon assembled to greet the steamer and her passengers, who like those on the wharf were composed mostly of Whigs. A miniature log cabin was hoisted to the foretop, while a live raccoon was perched upon the crosstree. As the *General Harrison* touched the wharf the multitude broke out singing:

I've been a loco foco these dozen long years,  
Spending my money for rum and strong beers.  
But now will lay by my money in store,  
Resolved for to play the loco foco no more.

*First Suspension Bridge over Niagara.*—In 1840 Charles Ellet erected the first suspension bridge over the chasm below Niagara Falls. He began by offering a prize of \$5 to the person who would first get a string across the rapids, and soon afterward hundreds of kites were in the air. Before night a boy landed his kite on the Canadian side, and secured the reward. To this cord was attached a wire cable, seven-eighths of an inch in diameter. From this cable was suspended a wire basket with room for two persons to be seated. The basket was attached to an endless rope worked by a windlass on either side.

*A Fire at Kingston,* April 18, destroyed the steamer *Cataraqui*, the schooner *Dora Nelson*, and an immense quantity of stores, including 10,000 barrels of flour, pork and other produce, the fire being supposed to

have originated from sparks thrown out of the smoke stack of the American steamer *Telegraph*.

*Other Events of 1840.*—The Michigan Central railroad ran cars as far west as Ann Arbor, two trains daily and the United States mail passed from Detroit to Chicago in 48 hours. In August, the steamboat *Erie*, Captain Titus, exploded on the Detroit river, killing six of her crew. In 1840 there were 48 steamers on the lakes of various sizes, from 150 to 750 tons, and costing in their construction \$2,200,000. Navigation opened at Buffalo, April 24, the steamer *Chesapeake*, Capt. D. Howe, arriving at that date. The Erie canal opened April 20. The steamer *Star*, Capt. Cliff Belden, arrived at Detroit March 8, first boat. The Straits of Mackinaw opened April 16, the steamer *Chesapeake* being the first boat through. March: Navigation open between Detroit and Cleveland, March 7; steamer *Missouri* launched at Vermillion, 700 tons. April 16: Fifty-four vessels lying at Gravelly Bay waiting for a passage through the ice. May Schooners: *Memee*, Drift and Victory damaged during a storm on Lake Michigan; steamer *Champlain* ashore near St. Joseph; crew rescued by the schooner *Minerva Smith*; steamer Gov. Mason totally wrecked at the mouth of the Muskegon river. August: Schooner *Iowa* sunk by collision with the *Erie* near Dunkirk. September: Schooner *Atlantic*, bound from Sandusky to Buffalo, run down by steamer *Buffalo* near Cleveland; schooner owned by Captain Scoville, who was in command; crew escaped with difficulty. October: Severe storm on Lake Erie October 3; steamers *Michigan* and *Vermilion* ashore near Buffalo; schooners *Bancroft* and *Martha Freme* damaged on Lake Erie; schooners *Lexington* and *James King* stranded below Buffalo; during the storm near Buffalo, the schooners *Commodore*, *Florida*, *Bucknor*, *Tippecanoe*, *Ruggles*, *Alps* and *Mitchell*, brig *North Carolina*, and steamer *Fulton* sustain injuries; schooner *Wyandot* damaged on Lake Erie; the *S. B. Chautaque* damaged near Dunkirk; on account of the storm, there were

113 vessels for shelter at Buffalo, the greatest number ever there at one time; steamer Constellation disabled near Point du Chien; taken in tow by the steamer Huron; steamer Chesapeake damaged by a whirlwind on Lake Erie, near Ashtabula; schooner Celeste ashore at Barcelona. November:

Schooner Major Oliver ashore below Grand River; steamer Rochester damaged on Lake Erie by the detachment of one of her tiller-chains; schooner Wm. Cayley, 140 tons, launched at Chippewa; steamer Traveller sustains injuries during a gale on Lake Ontario.

## CHAPTER XXXVI.

1841-1850.

THE FIRST PROPELLER ON THE LAKES, 1841—AN APPALLING CATASTROPHE—THE THEFT OF THE MILWAUKEE—PROGRESS OF SETTLEMENT—LOSS OF THE POST BOY—OTHER EVENTS OF 1841—THE STORM OF NOVEMBER 18, 1842—CHARLES DICKENS ON THE LAKES—EARLY PROPELLERS—WRECK OF THE REINDEER—OTHER EVENTS OF 1842—OIL CONSUMED IN 1843—IRON GOVERNMENT VESSELS—A DULL SEASON—A MOST DEPLORABLE DISASTER—OTHER EVENTS OF 1843—THE FLOOD OF 1844 IN BUFFALO—COPPER ROCK IS REMOVED—STEAMER EMPIRE BUILT—OTHER EVENTS OF 1844—LOSS OF THE KENT, 1845—A ROUND TRIP EACH MONTH DURING THE WINTER—THE GEO. M. BIBB GOES TO NEW ORLEANS—FIRST PROPELLER WITH UPPER CABIN—BOISTEROUS WEATHER—OTHER EVENTS OF 1845—ICE JAM AT BUFFALO, 1846—THRILLING RESCUE OF THE HELEN STRONG'S PASSENGERS—A MEMORABLE STORM—WRECK OF THE SCHOONER LEXINGTON—HOW THE CHESAPEAKE WENT DOWN—OTHER EVENTS OF 1846—APPALLING LOSS OF THE PHOENIX, 1847—DROWNED AT THE SAULT—LOSS OF THE SCHOONER DAUN—A LARGE MINERAL CARGO—DISASTER ON LAKE SUPERIOR—OTHER EVENTS OF 1847—THE GALE OF APRIL, 1848—EXPLOSION OF THE GOLIAH—CHICAGO'S FIRST LOCOMOTIVE—NIAGARA FALLS DRIED UP—OTHER EVENTS OF 1848—VESSEL SAILS FOR CALIFORNIA FROM CLEVELAND, 1849—CHOLERA BREAKS OUT—FATALLY SCALDED ON THE PASSPORT—OTHER EVENTS OF 1849—BURNING OF THE GRIFFITH, 1850—WRECK OF THE ANTHONY WAYNE—MANY LIVES LOST ON THE TROY—EXTENT OF THE LOSSES IN 1850—OTHER EVENTS OF 1850.

1841.

THE year 1841 was made notable by the appearance of the *Vandalia*, the first propeller on the lakes, and the first screw steamer ever built for business purposes. A Canadian shipowner at Brockville, Ontario, hearing that Ericsson's steamer wheel was on exhibition at the iron works of Hogg & Delameter, in New York, asked an Oswego friend, then visiting in New York, to inspect this model. The Oswego gentleman had no particular knowledge of machinery,

and asked Capt. James Van Cleve, of Lewiston, N. Y., a lake navigator, to go with him to see Ericsson's new wheel. Van Cleve examined the model carefully, and, after a two-hours' conversation with the inventor, became a convert to the new method of propulsion. Ericsson offered Van Cleve a half interest in his patent for the north-western lakes if he, Van Cleve, would place on Lake Ontario, within a year, a steam vessel equipped with the new wheel. Van Cleve assented to this proposition, and a written contract was drawn up on the spot.

This interview took place in December, 1840, and Van Cleve returned to Oswego, where he interested several other gentlemen with him, and in 1841 they built the propeller *Vandalia*, of 138 tons. She made her first trip in November, 1841, and proved a success in all weathers.

*An Appalling Calamity.*—The most appalling calamity occurring during the season of 1841 was the burning of the steamboat *Erie* on the night of August 9, off Silver Creek, Lake Erie, and in the same waters where the steamer *Washington 2nd*, had burned in 1838. The *Erie* had come out in that year, was of 497 tons burden, and was commanded by Capt. T. J. Titus up to the time of her loss. She had been in ordinary at Buffalo for a few days to receive fresh painting, and started out at about four o'clock in the evening for Chicago; although the wind was blowing fresh, everything promised a pleasant and prosperous voyage. When about 33 miles from Buffalo, off Silver Creek, a slight explosion was heard and almost immediately the whole vessel was enveloped in flames. Some cans of turpentine, it was conjectured, had ignited.

Captain Titus, who was in command, rushed from the upper deck to the cabin where the life preservers were kept, but flames hindered his progress, and he quickly gave orders to the engineer to stop the boat.

The passengers, driven by the flames, plunged madly into the water, catching at anything which might lend assistance in floating. Many went down immediately and were seen no more.

The steamer *DeWitt Clinton*, 20 miles astern, discovered the fire and came up, reaching the *Erie* at about 10 P. M. She was instrumental in saving many lives, but in spite of all efforts over 100 persons were drowned.

The steamer *Lady* from Dunkirk and the steamer *Chatauque* also came up soon after and together they towed the burned hull of the *Erie* to within four miles of the shore where she sank in eleven fathoms of water.

The loss of property was heavy. She had on board the first large invoice of mer-

chandise of the season, amounting to 30 tons, worth at least \$20,000. Immigrants on board had about \$180,000 of specie, and the boat cost over \$75,000; making in all a loss of nearly \$300,000. The *Erie* was owned by C. M. Reed, of Erie, and was one of the finest steamers afloat on the northern lakes.

*The Theft of the Milwaukee.*—During the later thirties the steamboat *Milwaukee* came out. She was built mainly for speed, and had a powerful low-pressure engine, the first on the lakes. She was owned jointly by parties in Buffalo and Milwaukee, between whom in course of time arose a fierce legal controversy regarding their several interests. Arriving at the port of Buffalo, this boat was taken up the river as far as possible and laid up in ordinary under the watchful care of a trusty ship keeper. The Milwaukee people kept quiet for a time, in the meantime concocting a scheme by which they expected to surprise their Buffalo friends. They employed Capt. Lester H. Cotton to secure possession of the boat, and he organized a small and trusty crew, which on a summer's night in 1841 got on board the boat, seized the keeper, gagged him and confined him where he could give no alarm, got up steam, cast off the moorings, and quietly passed down the river and out into the lake. Once in the lake, they gave the Milwaukee all the steam she could carry, and away she went, at a speed too great for any other boat on the lakes to overtake her. At Silver Creek pier they released their prisoner, made straight for Put-in-Bay, where they took on plenty of wood for fuel, and passed on rapidly up to Milwaukee, where they ran her hard into the bar inside the mouth of the river. Here she lay for a few years, until purchased by Oliver Newberry, of Detroit, who placed her engine in a new steamboat called the *Nile*, built by himself, and that was the last of the Milwaukee.

*Progress of Settlement.*—In 1841, the country bordering on the lower lakes was already pretty well settled, and works for the improvement or formation of harbors had been commenced at most of the important points on Lakes Erie and Ontario.



The upper lake region was but thinly settled, and there were no good harbors on Lake Huron, and but one, the harbor of Chicago, on Lake Michigan. Settlers were, however, pouring in rapidly, and there was even then a large and constantly increasing commerce between the lake ports, especially from Buffalo to Detroit and Chicago. Communication with Lake Superior could only be had by portage around the Sault Ste Marie, but the great mineral wealth of the Lake Superior country was attracting attention, and a survey for a ship canal had been made in 1840.

*Loss of the Post Boy.*—The schooner Post Boy with ten persons, including passengers and crew, was lost with all on board, in Lake Michigan, in October, 1841. She had left Chicago, where a keg of powder was shipped, and it is supposed must have exploded. The victims of this disaster were all citizens of Michigan.

*Over Niagara Falls.*—Three men in a small boat went over Niagara Falls. The names of two were Jehiel Kenney and John York. They had started to cross over from Schlosser to Hudson's tavern, two miles above Chippewa. Soon after they left, their cries were heard, but they were beyond rescue. The boat was loaded with six barrels of whisky, and being struck by a squall, she sunk. Kinney had kept a tavern eight miles below the Falls.

*An Unknown Wreck.*—Capt. Jacob Francisco, of the schooner De Witt Clinton, reported finding the wreck of a vessel 20 miles south of Port Stanley, with both masts gone and the bow sprit badly sprung. Her spars and sails hung over the side, and both davits were gone. An anchor weighing 700 pounds was taken on board the Clinton. The name could not be ascertained, but all hands were, beyond a doubt, lost.

*Other Events of 1841.*—In November the steamboat Rochester, when about 40 miles from Buffalo, en route from Cleveland, was overtaken by a storm and sprung a leak. She put back for the latter port, on her arrival had two feet of water in the hold, which the constant use of the pumps could not gain upon. Had she remained out a short time longer she would have gone to

the bottom. The steamer New England was out in the same storm, but by good seamanship on the part of Captain Oliver, she arrived safely at Buffalo. The schooner America, of 60 tons, which loaded with produce at St. Joseph, went ashore 20 miles from that port, and with her cargo became a total loss. She was quite an old vessel, and had sailed for many years on Lake Erie. March 27: Schooner Margaret Helm leaves Cleveland, the first departure of the season; Steamer Burlington burned at Queen's wharf, Toronto. April 28: Schooner Eliza Ward in command of Captain Nicholas, ashore in a severe storm near Chicago; schooner Victory sustains injuries during a storm on Lake Michigan. August 9: Steamer Erie burned near Silver Creek, Lake Erie. Over a hundred lives lost. September 10: Schooner J. A. Barker ashore near Sandy Town; schooner Louisa Jenkins, in command of Captain Travers, wrecked at Dunkirk; schooner Savannah, of Silver Creek, sunk near Conneaut. October 14: Schooner Havre in command of Capt. H. B. Hawley ashore near Conneaut. Owned by C. Deming & Co; 17, schooner Dolphin, in command of Captain Morgan, ashore at Death's Door. Crew rescued by the Yankee, in command of Captain Wells; schooner Britannia, 100 tons burden, foundered on Lake Ontario; owned by Calvin Cook & Counter and T. Dodge & Co., of Kingston, and freighted with staves from Hamilton to Montreal; schooner Savannah, sunk on Lake Erie, raised and towed to Conneaut; schooner Maria, in command of Captain Goldsmith, totally wrecked on a rocky reef 20 miles from Mackinac; owned by Mr. Kinney, of Buffalo. November: Steamer Odd Fellow wrecked on a reef two miles east of Gravelly Bay; owned by William Baker, and had been on a trading trip to Canada, having on board a cargo of chestnuts valued at \$500; 17, schooner Onondaga ashore near Manistee river. Had on board 6,000 bushels of wheat for Oswego; 25, brig Richard Winslow in command of Captain Beckwith, ashore near Chicago. Insured for \$4,000. Brigs Oceola and Illinois wrecked on Lake Michigan. December 3: Severe storm on

Lake Michigan. Schooners McFarlan and Harrison ashore at Racine; brigs Wave and H. Pearsons ashore near Southport.

1842.

*The Storm of November 18.*—The wind, which had been blowing from the west, turned to the southeast November 15, from which quarter it blew until November 17. At 7 P. M., November 17, the wind veered again to the west and began to blow with great force. At Buffalo the gale was accompanied by snow, which fell to the depth of 12 inches. The loss of property and life was great. The number of persons killed was estimated at 100, while about 50 wrecks were scattered over the Great Lakes. Eighteen vessels were driven ashore on the Canadian side of Lake Erie, and many more on the shores of Lake Michigan and Lake Ontario. Many of the boats were total losses, with their cargoes, while some sustained only a partial loss or serious injury.

On November 16, the steamer Chicago passed Erie, just before the change of wind. November 18 she was a helpless wreck.

The ship Milwaukee was loading flour at Kalamazoo during the forenoon of November 17. At 2 o'clock the next morning she went ashore and only six persons out of 15 were saved. She was a total wreck, but her cargo, consisting of 2,000 barrels of flour, was saved.

Up to this point in the history of lake navigation, no storm had swept with greater violence and destruction to the shipping interests, and with a greater sacrifice of human lives. A partial list of the disasters which occurred November 17, is as follows: Steamer Chicago ashore at Cattaraugus. Schooner Buckeye ashore at Conneaut. Schooners B. Franklin and Allegan ashore at Fairport. Steamer Macomb ashore at Point Mouille; passengers rescued by the Brothers, which also went ashore a short time afterwards. Brig Francis Mills and schooner Jenny ashore on north side of Lake Erie. Schooner Bancroft ashore near St. Josephs. Schooner Mariner ashore at Point Pelee; taken in tow by the steamer General Scott. The Indiana wrecked near Gravelly Bay. The Mississippi wrecked

near the Indiana. The M. Kingman ashore on the Canadian side near Gravelly Bay. The Florida, of Buffalo, ashore at Point Albino. Severe storm over all the lakes, with heavy losses at all important ports.

*Charles Dickens on the Lakes.*—Charles Dickens, the great novelist, took passage on the steamboat Constitution at Sandusky en route eastward. The Constitution called at Cleveland, April 25, and thence proceeded to Buffalo. In his American Notes Dickens thus speaks of the Constitution: "She was a large vessel of 500 tons, and handsomely fitted up, though with high-pressure engines, which always conveyed that kind of feeling to me, which I should be likely to experience, I think, if I had lodgings on the first floor of a powder-mill. She was laden with flour, some casks of which commodity were stored upon the deck. The captain coming up to have a little conversation, and to introduce a friend, seated himself astride one of these barrels, like a Bacchus of private life, and pulling a great claspknife out of his pocket, began to whittle it as he talked, by paring thin slices off the edges, and he whittled with such industry and hearty good-will, that but for his being called away very soon, it must have disappeared bodily, and left nothing in its place but grist and shavings."

*Early Propellers.*—In the spring of 1842 the Vandalia passed through the Welland canal to Buffalo, where she was visited by large numbers of people who were curious to see this new departure in steam navigation. The firm of Hollister Bros., of Buffalo, seemed to have become satisfied that the new method was an entire success, for in the year 1842 they built two new propellers, the Sampson and the Hercules. The Vandalia was commanded by Capt. Rufus Hawkins, and arrived at Cleveland April 23. On leaving that port she ran into the steamboat Livingston, doing considerable damage. She arrived at Detroit the day following. The propeller Oswego was built at Oswego in 1842, and was the second on the lakes.

*Wreck of the Reindeer.*—On October 21, 1842, there was a terrible storm on the lake, in which the Canadian steamer Rein-



deer was wrecked of Point Sauble. Nineteen of her crew found watery graves, and her two passengers. Two of the crew were washed ashore unconscious, and were saved. Next day the steamer was broken to pieces and her cargo strewn along the beach for miles. The Reindeer was owned by Holcomb & Henderson, of Montreal, was a side-wheel steamer, and sailed from Chicago October 16, with 13,000 bushels of wheat, 61 barrels of tallow, and some flour.

*Other Events of 1842.* — April 20: Schooner Caledonia, of Cleveland, in command of Capt. John Gardner, ashore at Bass Island; released April 21 by steamer Clinton; 12, Capt. William Thorn, aged 93 years, dies at St. Clair. It is believed that he was the first man to sail a vessel on Lake Superior. He served as pilot to the unfortunate expedition against Michilimackinac, and was the first settler of St. Clair county; 27, Canadian steamer Western burned at the wharf in Detroit. May: Schooner John Richards capsized on Detroit river, one mile below Sandwich, and six of her crew drowned; British steamer Com. Barrie lost in Lake Ontario, bound from Niagara to Kingston with a cargo of flour; crew and passengers rescued by schooner Canada; 6, schooner Lewis Goler, of Oswego, bound to Hamilton, ashore near the mouth of the Genesee river. June: Schooners Thomas Hart, of Oswego, and Detroit, of Cleveland, ashore at Sodus; the captains of both boats thought they were making the harbor at Oswego when they went ashore; both vessels a total loss, estimated at \$8,000. July: Schooner Essex, loaded with merchandise, from Oswego to Toledo, sunk near Turtle island, by collision with a sunken vessel; steamer Shamrock sunk by the explosion of her boiler, near Pointe Claire, St. Lawrence river; several lives lost; schooner Starkey stranded while attempting to enter Grand river. August: Steamers Illinois and Great Western collide, near Manitou light, by which the latter was seriously damaged; schooners Emily and Acorn, in command of Captain Chase and Captain Cobb, collide, by which the Acorn was sunk; she was a new boat, owned by William Walker, of

Amherst, Ohio. September: Steamers Chicago and Commerce collide on Lake Erie, by which each sustained injuries; during a gale on Lake Erie the schooners Dolphin and Martha Freme, in command of Captain McCloy and Captain McKinty, collide, by which the former is sunk, near Erie. October: Schooner Kinne severely damaged by collision with the steamer Wisconsin, on Lake Huron; steamer Chataouque collides with the schooner Lodi, in command of Captain Hubbs, near Sturgeon Point, by which the latter is sunk. November: Steamer Vermillion burned at Huron, with a loss of five lives; steamer Wisconsin ashore near Chicago; 9, schooner H. Norton ashore at Buffalo; schooner Leander, in command of Captain Whelan, sustains severe injuries during a storm on Lake Erie; 17, steamer Chicago ashore at Cattaraugus during a gale; steamer Milwaukee wrecked near the mouth of the Kalamazoo; of the officers and crew, numbering fifteen persons, only six were saved. Schooner Josephine ashore near Oswego; the Nile, owned by Mr. Hulbert, of Presque Isle, wrecked at Coburg; steamer St. David ashore at Howe island, with five barges which she had in tow heavily laden with flour. The passengers left the boat during a terrific storm of wind and snow, and after wandering in the woods for some time found a log hut, where they remained two days; they were brought back to Kingston by the steamer Prince of Wales; steamer Erie sunk off Port Huron by collision with ice on Lake St. Clair; owned by William T. Pease and others of Detroit. December 5: Steamer Trowbridge ashore near Milwaukee harbor; 12, schooner Flamboro ashore near the mouth of the Genesee river, owned by Gunn & Brown, of Hamilton.

1843.

*A Dull Season.*—The season of 1843 was a dull one, and not a few boats had small margins at the close. The steamer Thomas Jefferson was laid up in August for the season; steamer Missouri lay by two months; the Buffalo was hauled off the upper lake route to fill the place of the Jefferson between Buffalo and Detroit.



*A Most Deplorable Disaster.*—The schooner *South America*, Captain Brady, left Buffalo November 4 with a cargo of salt for Toledo, and was never heard of afterwards. This was the most deplorable disaster of the season; six lives lost.

*Oil Consumed in 1843.*—There were upon the lakes in 1843 44 lighthouses and beacons, consuming annually 10,000 gallons of oil. The contract for furnishing oil for the United States lighthouses was let at 53 cents for winter and 51 cen's for spring oil. These 44 lighthouses and beacons had 430 lamps, each requiring 27 gallons of oil annually. Each steamboat consumed 100 gallons, or three barrels, a month for her machinery, lights, etc., which was 750 gallons for the season, and an aggregate for steamers of 18,750 gallons. The number of sail craft in commission at that time was about 300, which consumed 6,000 gallons, making a total used on the lakes, including lighthouses, etc., of 33,930 gallons.

*Iron Government Vessels.*—An iron revenue cutter was built for the United States Government this year at Oswego, of the following dimensions: Length, 150 feet; beam, 23 feet; depth, 8 feet. The United States steamer *Michigan* was in process of construction at Erie, Penn., this season, of iron, the plates of which were transported from Pittsburg, *via* Cleveland, at a cost of \$6,000 between the latter port and Erie. Also an iron survey steamer for the United States Government at Buffalo, which was launched in the fall and named the *Colonel Abert*. She was 97 feet long, 18 feet 3 inches beam, and 8 feet hold. She was propelled by one of Hunter's submerged water wheels and two engines, 16 inches diameter and 26-inch stroke, with a draft of 40 inches; nothing visible above the deck except the smokestack.

*Other Events of 1843.*—Outside of the steamboat combination there were several independents, which established rates to their own liking, resulting in the reduction of fares. The following extract is taken from the *Cincinnati Atlas* November, 1843: "We noticed at the upper landing the two-masted schooner *Dolphin*, Captain Doyle, from Buffalo, N. Y., loaded with white fish

and bound for New Orleans. She entered the Ohio *via* Cleveland, through the Ohio canal, and is probably the first schooner that has ever floated from Lake Erie to the Ohio." The steamer *General Wayne*, Captain Perkins, made the voyage from Chicago to Buffalo in three days 11½ hours; the schooner *Sandusky*, Capt. J. P. Davidson, from Buffalo to Detroit and back with cargo, in four days and a half; schooner *Windham*, Capt. O. Shephard, from St. Joseph to Buffalo in five days and three hours. The last link of the railroad from Buffalo to Albany was finished in the winter of 1843, and the Michigan Central extended to Jackson. In February the steamboat *Sandusky*, laid up at Buffalo, was set on fire by some unknown miscreant, and almost totally destroyed. In the spring she was rebuilt and converted into a full-rigged bark, with Capt. Charles Marsh in command. April 1: Ice 30 miles around Nine Mile Point lighthouse, averages a thickness of 20 inches; 25, sloop *Erie*, flour, foundered on Lake Michigan; six lives lost. May: Steamer *Illinois* leaves Detroit for Chicago with the largest load of passengers ever carried on the lakes; the number of persons aboard was over 700. Schooner *Troy* lost near Manitou Isle during a storm. July: Schooner *Hudson* damaged by lightning while at anchor near Peshtigo. August 2: The *Columbus* damaged by collision with the Great Western on Lake Erie near Conneaut. September: Schooner *Equator* sunk by collision with the steamer *Rochester* near Conneaut; loaded with 1,200 barrels flour from Detroit consigned to Waring, Stockton & Co. Steamer *Kent* disabled on Lake Erie, and towed to a Canadian port; passengers transferred to the steamer *Huron*. October 1: Severe storm on Lake Erie. Brig *Rebecca* damaged by collision with the steamer *Cleveland* near Silver Creek. Propeller *Porter* damaged during a gale on Lake Erie, while making her first trip. Steamer *Constitution* sustains injuries during the storm. Schooner *Albany*, cargo of salt and 123 passengers, in command of Capt. Jacob Imson, wrecked near Mackinaw. Schooner *Wyandot* struck a pile and sunk at the dock in Detroit; flour

cargo damaged. Schooner Alabama, cargo of wheat, sunk in attempting to make Fairport harbor; total loss. Steamer Missouri struck on Point Aux Barques; on reaching St. Clair river, sunk at St. Clair. Steamer Bunker Hill and propeller Independence damaged by collision south of Milwaukee. Ship Superior, in command of Captain Munson, ashore at Michigan City; total loss. The C. A. Van Slyke sunk at Black Rock; loaded with merchandise for American Transportation company. Schooner J. G. King, loaded with groceries from Detroit, ashore near Conneaut; total loss. November: Propeller Chicago damaged by running on a reef near Mackinaw. Brig Osceola a total wreck at Southport.

1844.

*The Flood of 1844 in Buffalo.*—This flood occurred October 18, 1844. It was the most disastrous that has ever occurred since the city was founded. It came without warning, an avalanche of waters upon a sleeping community, many of whom were drowned and many of whom had narrow escapes from a similar fate.

For several days before the occurrence of the flood a strong northeast wind had been driving the water up the lake, but on the evening of the 18th a sudden shift of the wind took place, and it blew from the opposite direction with a tremendous force, never before or since known to the inhabitants of Buffalo. It brought with it immense volumes of water, which overflowed the lower districts of the city and vicinity, demolishing scores of buildings, and spreading ruin along the harbor front, playing havoc with shipping, and causing an awful destruction of human life.

The municipal rooms over Terrace market were filled with agonized people scanning dead bodies, fearfully expectant of finding the familiar forms of relatives and friends. A similar situation existed at the court house on Washington street, where the dead bodies were laid in windrows awaiting identification. At Huff's hotel, at the corner of Main and Scott streets, the water was six feet deep, and there the bodies of several young women, in their night clothes,

were fished out of the basement windows. They were hotel waiters, drowned in their beds. In the lower districts there were many harbor craft and canal boats left by the receding waters, many canal boats being out on the commons, on Division, Eagle and Clinton streets. South Buffalo was strewn with miscellaneous wreckage of all kinds. At the corner of Main and Ohio streets the water was six feet deep and at Michigan and Exchange streets it was five feet deep. The onrush of waters made a break in the south pier, through which a schooner leaped without injury and ran aground at the foot of Ferry street.

In the evening before the storm the steamers St. Louis, Robert Fulton, Indian Queen and Julia Palmer left the port of Buffalo, for the upper end of the lakes, with a full complement of passengers. When the St. Louis was opposite Dunkirk she broke her shaft, and when paying out into the trough of the sea four of her passengers were swept overboard and lost. With the power of one wheel, aided by a jib and staysail together with good seamanship, she reached the Niagara river at daybreak next morning, and was blown into the river without regard to channel, the river being all channel on account of the height of the waters. She went in with her side and end alternately to the front. Capt. James Haggart came out with his steam ferry boat, which he had then been running four years, and brought in the disabled St. Louis to the foot of Ferry street.

The Indian Queen, the smallest of the four that went out into the lake on the evening before, was the only one able to reach the port of Buffalo on her return. The Robert Fulton, after losing two or three passengers, who were washed overboard, was piled upon the sand beach above Sturgeon point.

The Julia Palmer, with 300 passengers on board, was driven helplessly down the lake into Buffalo bay, but when she was opposite the foot of Main street her anchors caught and held her fast, and there she rolled and pitched in a manner fearful to behold all the next day. On the morning of the 20th, the sea having gone down suffi-



ciently, a relief boat went out and brought her safely into port, much to the relief of the passengers and the worn-out crew.

Among the other damages were the following: Schooners Potomac, G. H. Walker and Brandywine ashore at Erie. Schooner John Grant ashore at Erie. Schooner Henry Clay ashore near Erie. Schooner Lodi disabled and taken in tow by the Missouri. Schooner John Marshall wrecked near Mexico bay. Schooners Maria Hilliard, Wyandot, Mariam and Georgiana sustain injuries off Erie. The iron steamer Abert driven upon the beach at Buffalo and got off. Steamer Commodore Perry arrived at Buffalo in a shattered condition, losing one man, and ran into the steamers Great Western and Wayne. Steamer Chautauque ashore on her beam's end near Black Rock. Steamer Columbus driven into a pasture 200 feet from the creek. Brig Europe reached Buffalo damaged in her hull and outfit. Brig Uncle Sam, Capt. John Vail, and schooner Marion, Capt. Jerry Oliver, arrived at Buffalo during the gale with outfit badly damaged. Schooner Robert Wood, Captain Miner, of Oswego, damaged a cargo of merchandise in the gale on Lake Erie. The amount of merchandise, books and papers on the docks damaged and lost was over \$10,000. A horse swam ashore from the Julia Palmer with a letter attached to its mane stating that they had burned all the wood and were "now burning the furniture." Fifty canal boats went ashore between Buffalo and Black Rock. Schooner Ashland beached near Erie street, Buffalo; got off. Steamer G. W. Dale was floated across Ohio street, Buffalo. Steamer Bunker Hill high and dry up the creek. Schooner Hannah, of Oswego, with merchandise for Detroit, wrecked 20 miles below Malden and went to pieces, crew saved. Schooner Ottawa lost anchor and sails on Lake Erie; arrived at Detroit. Schooner Marengo arrived at Detroit from Lake Erie with sails gone. Schooner Big Z ashore on Hog island, Detroit river; got off. Schooner Congress went ashore two miles below Malden. Brig John Dougall, Canadian, bilged on Peach island, Lake St. Clair. Schooner Pacific wrecked and went to pieces near

Dunkirk. Propeller Emigrant sustained serious damage on Lake Erie.

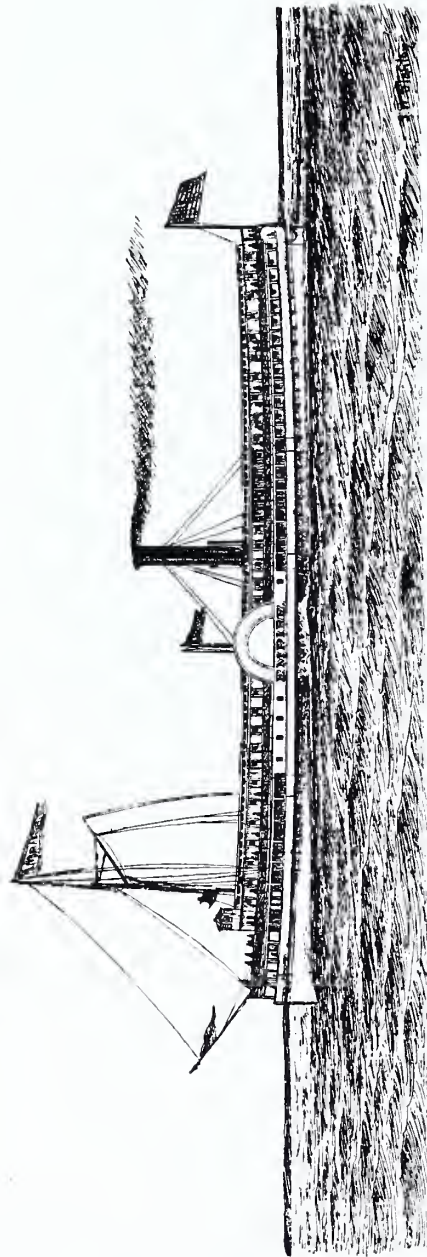
The gale was terrific, blowing from northwest, followed by cold. At Buffalo the loss of life and property was greater than all other ports combined, the water rising within the space of two hours to 22 feet. On Lake Ontario the schooner Charlton, owned by Fitzhugh & Company, while on the passage from the Welland canal, made Sodus harbor during the night, stranded on the bar, bilged, and filled with water. The mate of the schooner Nicholas Biddle was lost overboard in Lake Erie. Schooner Pennsylvania was wrecked on the north shore of Lake Erie and all lost, ten lives. A Canadian craft, name unknown, founded in Lake Erie with loss of thirteen lives. The small schooner Governor Marcy was wrecked near Point Albino with five lives lost. The schooner United States, laden with merchandise for Detroit, was driven ashore on Point Monyea, near Detroit river.

The number of lives lost at Buffalo were fifty-three and those on the lake twenty-five. The Fulton was a high-pressure boat, of 308 tons, and had been nine years in service. She had a large load of passengers on board and a full cargo of freight. The total number of casualties was eighty-five.

*Copper Rock is Removed.*—The celebrated rock of pure copper on Lake Superior, and which caused so much speculation among scientists, arrived at Buffalo, in October, 1844, on board the revenue cutter Erie, Capt. Gilbert Knapp. It was brought from the shore of Lake Superior through the enterprise of Julius Eldred, of Detroit, to be placed in the National Institute at Washington. It was first shipped on board the schooner Algonquin, and transported over 300 miles to the head of the falls of Sault Ste. Marie. It was then transferred to a Mackinac boat, and after passing through the canal around the rapids, it was shipped on board the schooner William Brewster for Detroit, where it arrived October 11. At Detroit it was placed on board the revenue cutter and taken to Buffalo as above stated. Thence it was transferred on cars to its destination. It was pure native copper with-







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PASSENGER STEAMBOAT EMPIRE.

Built at Cleveland, O., in 1844. First steamboat in the United States to measure over 1,000 tons, and when she came out was 200 tons larger than any other steam vessel in the world; length over all 260 feet; engines inclined low pressure, below deck; 600 horse power; later converted into propeller.

out alloy. The weight of the rock was never definitely ascertained, but was estimated at 2,200 pounds. Its dimensions were 3 feet 4 inches broad by 3 feet 8 inches long. It was the largest specimen of native copper in the world.

*Steamer Empire Built.*—The steamer Empire, built at Cleveland in 1844, was the first steamboat constructed in the United States to measure over 1,000 tons, and when she came out was over 200 tons larger than any steam vessel in the world. She measured 260 feet over all. She was of excellent model, sharp at both ends, instead of the round bluff bow and square stern, the usual build of lake vessels at that time. She was also the fastest boat on the lakes, and her first year sailed from Detroit to Buffalo in 20 hours and 25 minutes, and from Cleveland to Buffalo in 12 hours and 44 minutes. Later she was made a propeller.

*Other Events of 1844.*—In 1844 a new departure was made in the management of certain lines, for the "new and fast sailing packet Prince Edward carried reverend gentlemen of all denominations free." However it appears that accommodations on board of passenger vessels were not always of the best, for Bonnycastle complains that the charge for wine "was shameful, 7s 6d per bottle, and stuff of most inferior quality." The first sad casualty of the season was the loss of the schooner Wave, on Lake Michigan, with 13 lives, followed about the same time by the foundering of the Victor and loss of 8 lives on that lake. Three vessels were simultaneously wrecked near St. Joseph, Lake Michigan, during a severe gale March 27, the schooner Jefferson, Captain Dougall; Ocean, Captain Davis, and brig Rosa, Captain Whiting. The two former had cargoes of stone, the latter no cargo. During this storm the wreck of the ill-fated schooner Wave drifted ashore at Racine, and three bodies were recovered. A party from Buffalo in search of sunken wrecks in Lake Erie discovered the schooner Young Sion, laden with railroad iron, off Walnut creek, also the steamer Erie, six miles off Silver creek, but were unsuccessful in raising them. On May 4 the schooner

Freedom, Captain Ward, capsized 15 miles above Fort Gratiot lighthouse and 3 miles off shore. There were six persons on board, three of whom were drowned. The vessel was loaded with lumber and shingles. On the 18th of the same month the schooner Nicholas Biddle, lying under bare poles, capsized about two miles above Cleveland; the crew was all saved and the vessel subsequently recovered. The schooner Shamrock, laden with pork and flour from Toledo, capsized eight miles above Gravelly bay, and one man was lost; the vessel was recovered a few days afterward. The new survey steamer Colonel Abert made her trial trip at Buffalo May 18, and gave the utmost satisfaction. January 1: Steamer St. Clair left Cleveland for Detroit, the first clearance of the season; 4, scow Flat Foot ashore at Madison, Lake Erie. May: Schooner Smead capsized off Port Stanley; schooner Aurora capsized on Lake Ontario during a storm; two lives lost. June 5: The Empire launched in Cleveland from the shipyard of G. W. Jones, 1,200 tons burden; schooner Edwin Jenny sunk on Lake Erie by collision. July: Schooner Argyle, in command of Captain Teal, damaged during a storm near Gravelly bay; saved from being wrecked by the schooner Tom Corwin, in command of Captain Cannon; 15, british schooner Kent ashore near Grand River. August: Schooner Daniel Whitney, from Kalamazoo, in command of Captain Crooker, wrecked on Lake Michigan and all hands lost. September: Steamer Perry sustains injuries from collision with piers at Huron harbor during a severe storm; equinoctial storm accompanied with snow at Cleveland. October: Steamer Fairport burned at the dock in Newport, St. Clair river; barge Sandusky ashore at Cattaraugus creek, becomes a total wreck; schooner Hannah wrecked near Malden; propeller Emigrant, with 9,000 bushels of wheat from Chicago, ashore at Goderich; brig Alert, in command of Captain Scovill, ashore at Point Wabashanks; 29, schooner Philadelphia, in command of Captain Conner, ashore at Cleveland; schooners Ainsworth, Juliet and Cambridge ashore at Huron during a gale on Lake Erie; schooner Penn-



sylvania wrecked at Point Albino; schooner Highlander, in command of Captain Jacques, wrecked on Lake Erie. November: Brig Clarion and schooner Wabash ashore near Buffalo; 20, schooner Essex with cargo of wheat from Sandusky, ashore at the mouth of the Niagara river; owned by Doolittle, Mills & Co.; 24, steamer Rochester ashore near Oswego; passengers taken off by the Telegraph; schooner Gates ashore near Oswego; 23, schooner Charleston ashore and full of water, Sodus harbor. December 6: Schooner H. M. Kinne ashore near Goderick, after running on Point Wabashank reef; schooner W. Foster ashore near Ft. Gratiot; schooner Champion ashore near Point Wabashank; schooner Jenny wrecked at Buffalo; crew saved; schooner Richmond lost on Lake Michigan.

1845.

*Loss of the Kent.*—A sad casualty was the loss of the steamer Kent on Lake Erie by collision with the steamboat London, about five miles below Point Pelee. The Kent was in command of Captain Laing, and was owned by Messrs. Eberts, of Chatham. She was *en route* to Buffalo with about 75 passengers. The London was sailed by Capt. H. Van Allen, from Buffalo for Detroit. The reputed cause of the collision was an error of the pilot on board the Kent, who attempted to pass on the wrong side of the London, which brought her directly across the bows of the latter. Both steamers were owned by Canadian parties. The Kent went down in deep water, with nearly all of the baggage, also her books and money; eight passengers were drowned; the London sustained no injury.

*A Round Trip Each Month During the Winter.*—Navigation commenced at Buffalo April 3, the steamer United States, Capt. H. Whittaker, clearing on that date, and it may also be noted as never before recorded that the same steamer performed one round trip each month during the winter. The feat was never before or since accomplished. The Erie canal was ready for business April 15. The Straits of Mackinac were clear April 4, the propeller

Hercules, Capt. F. S. Wheeler, the first to pass through, bound westward.

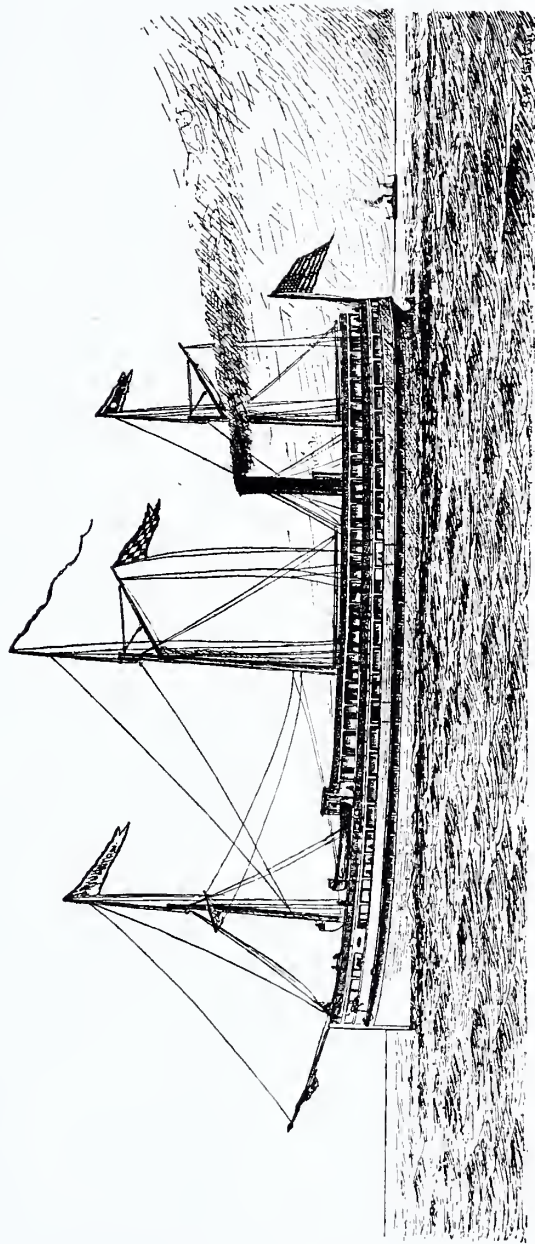
*The Geo. M. Bibb Goes to New Orleans.*—The United States revenue propeller Geo. M. Bibb (iron built), the material for which was gotten out at Pittsburg and put together at Oswego, left the lake region for New Orleans. On her arrival at Cincinnati she was placed in the dry dock, where her submerged propellers were removed and side wheels substituted. She was *en route* to serve on the seacoast. In 1881 she returned to Lake Ontario.

*First Propeller With Upper Cabin.*—In 1845 the propeller Princeton was built at Perrysburg, Ohio. She was 185 feet in length, and was the first propeller on the Great Lakes that had an upper cabin. For many years she ran between Buffalo and Chicago.

*Boisterous Weather.*—In the fall of 1845, after the close of navigation, there were put in construction on the upper lakes, 7 steamboats, 9 propellers, 14 brigs and schooners, all of the largest class.

The extremely boisterous weather was very destructive to lives and vessels, amounting to, as nearly as a careful account can make it, sixty lives lost; thirty-six vessels driven ashore. Twenty of these became total wrecks, four foundered at sea, with entire loss of crews and cargoes, producing a loss of property in the aggregate over \$200,000. In the five years ending in 1845 more than 400 lives were lost, and destruction and damage to steamboats, vessels and cargoes amounted to more than \$1,000,000.

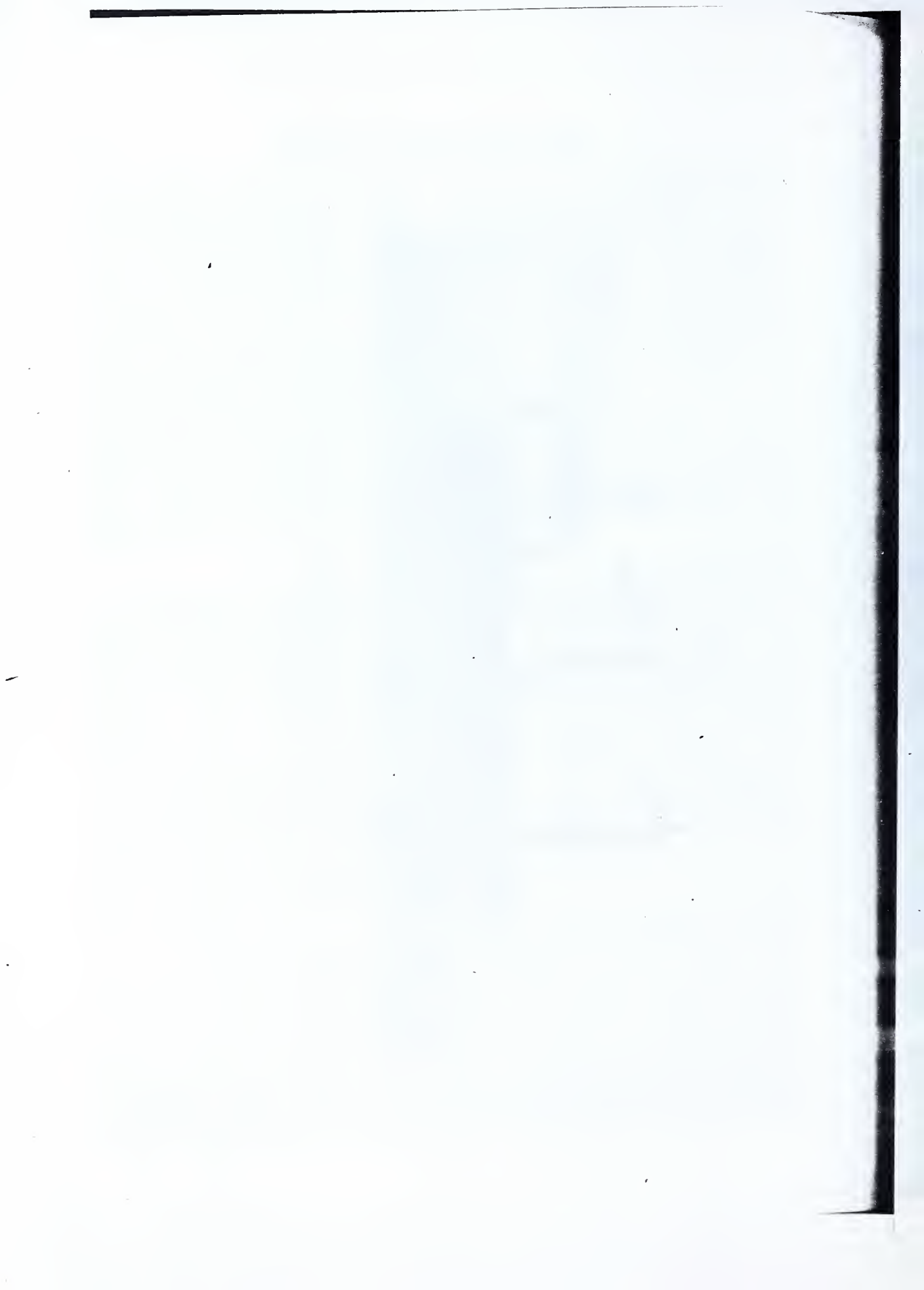
*Other Events of 1845.*—The schooner Chapman, Capt. Charles Gale, of Port Burwell, laden with lumber, bound for Cleveland, was wrecked a short distance above Long Point, Lake Erie, and was a total loss. On the morning of June 3, the steamer St. Louis, Capt. G. W. Floyd, met with a bad smash-up to her engine off Thunder Bay, Lake Huron, by the crosshead giving way. She had on board 300 passengers for Milwaukee and Chicago. Sail was hoisted and a signal of distress set, and soon after the brig Robert Hunter came alongside and



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PROPELLER PRINCETON.

Built at Perrysburg, O., in 1845. First propeller on Great Lakes that had an upper cabin; two twin screw engines; 24-inch cylinder by 24-inches stroke.





took her in tow. The schooner *Havre*, laden with merchandise, was wrecked on Middle island, Lake Huron; nothing saved. The schooner *Essex*, of Oswego, cargo of wheat, was wrecked near the mouth of the Niagara river, Lake Ontario. She was owned by Doolittle, Mills & Co. One thousand bushels of the cargo, shipped from Sandusky, were saved. The schooner *H. N. Yates*, from Youngstown, with 1,500 barrels of flour and 1,000 bushels of wheat, taken from the *Essex*, went ashore near the fort at Oswego, and damaged the whole cargo. During the same storm three canal boats, together with the steamer *President*, were driven from their moorings in Black Rock harbor; the *Suavity*, with 1,800 bushels of wheat, was also driven ashore. The schooner *Ocean* was wrecked on Lake Michigan, and Captain McGregor; Mr. Russell, mate; J. Quinn, second mate, and the cabin boy were all lost. The steamboat *Indiana*, Captain Roby, struck a snag in Maumee bay, and sunk. Steamer *Ben Franklin*, Captain Edmunds, struck, on entering Cleveland harbor, and a heavy sea lifted her on the west pier. One wheel was entirely carried away, and the wheelhouse and guards shattered, and her false sides stove in. March: Schooner *Brothers* wrecked on Lake Ontario. Steamer *Columbia*, in command of Captain Peck, damaged by explosion of boiler on Lake Erie. April 1: Brig *T. W. Maurice* and sloop *Geneva* ashore at Conneaut and Ashtabula, respectively; one life lost on the *Geneva*; 2, brig *T. W. Maurice*, in attempting to reach Conneaut harbor during a severe gale, runs ashore. May: Schooner *John Grant* capsized near Erie; crew rescued by the schooner *Kinne*, in command of Captain Davidson; schooner *Texas* sunk and total loss near Put-in-Bay island. June: Schooner *Henry Hubbard* capsized on Lake Huron; crew saved. August 1: Brig *Indiana*, in command of Capt. T. L. Parker, ashore at New Buffalo. October: Scow *Sweden* sunk at Buffalo, damaging 1,000 bushels of wheat taken from the schooner *Howard*; 21, schooner *Maryland*, during a gale, struck a pier and was sunk at Fairport; cargo of 7,500 bushels wheat seriously damaged; the

*Maryland* was raised and repaired; 23, schooner *Mountaineer*, after springing a leak, ran ashore at the mouth of Cattaraugus creek. November: Schooner *Caledonia*, of Kingston, ashore at Cleveland, while attempting to make the harbor; total loss; brig *Francis Mills* and schooner *Aurora Borealis* ashore at Huron; subsequently released; 5, schooner *Henry Clay* ashore at Erie; brig *Owanungah* ashore at Madison Rock; both subsequently released; 8, schooner *J. A. Barker*, in command of Captain Shelby, ashore at the head of Lake Michigan; 9, schooner *Commodore*, in command of Captain Dorrett, ashore at Cleveland in attempting to enter the harbor during the gale; the revenue cutter ashore at Conneaut; brig *Maj. Oliver* ashore a half mile south of Chicago; cargo of wheat damaged and vessel a complete wreck; schooner *Amazon*, laden with dry goods and whiskey; sunk at Milwaukee; raised November 10, sloop *James K. Polk* wrecked near Michigan City; crew of seven lost; schooner *Maryland* sunk at Fairport, raised and towed to Cleveland; 11, brig *Algomah*, laden with grain, wrecked, and the schooner *Victoria* ashore at Dalhousie; 10, brig *Preble* ashore at Buffalo in attempting to enter the harbor; 14, schooner *St. Regis* ashore at the mouth of the Genesee river, Lake Ontario; schooner *Elizabeth Ward*, in command of Captain Crowl, capsized on Lake Erie; crew saved; boat owned by Russell & Crowl, of Cleveland; schooner *Texas* capsized near Long Point; the vessel and crew of six were lost; 22, schooner *North Carolina*, wheat laden, ashore at Ashtabula; schooner *Western Trader*, in command of Captain Barton, ashore at Buffalo; schooner *Bluebell* beached below Wind Mill Point; schooner *Sylph* damaged by collision with the schooner *Milan*, on Lake Erie; schooner *Wilcox* driven against the pier and sunk at Cleveland; 25, schooners *Niles*, *Mahala* and *Boliver* ashore on Lake Michigan. December: Schooner *E. Jenny* sunk at the pier in Buffalo; schooner *Favorite* frozen in and sunk near the mouth of the Maumee river; steamer *Lexington* damaged by fire on Lake Erie; 14, schooner *Pilot* ashore and full of water near Mackinaw; schooner

Kent, wrecked at Thirty-Mile Creek.

1846

*Ice Jam at Buffalo.*—The elements were terribly destructive to life and property, commencing in the month of March, before the opening of navigation; an ice blockade in Buffalo harbor, March 14, was without a precedent in lake annals. During this ice jam at Buffalo the Chataque, Rochester, St. Louis; brigs Empire, Toledo, Maryland, Illinois, Hoosier, Osceola, Globe and Toledo; and schooners Marengo, Woodbridge, Kinnie, Convoy, G. H. McWorter, H. Colvin, Barcelona, Dayton, Jane Louisa, Rainbow, Superior, Dolphin and Velocity sustained serious injuries. The schooners Avenger, Milan, United States, Emlin, Baltic, Daniel Webster, Vermont, Adair, Huron and Stranger were damaged; steamer Dole sunk.

*Thrilling Rescue of the Helen Strong's Passengers.*—The loss of the steamer Helen Strong, a boat in her second year, was a most thrilling event. She left Buffalo for Toledo, November 20, about noon, with a large number of passengers and a heavy freight of merchandise, mostly for Erie. When in sight of that port she was struck by a heavy beam sea, which parted her rudder chain. The after cabin was being cut away in order to ship a tiller, when one of her steam pipes burst, and let all her steam escape, but no one was injured by the explosion. Her anchor was dropped, to which she swung for half an hour, when the chain parted, and at about 10 o'clock at night she struck a rocky shore which arose perpendicularly some 30 feet above her hurricane deck. After striking two or three times she broke in two places, and settling in the sand, remained stationary under the cliff. The first sea that struck her after she settled, carried away the whole weather-side of her cabins, making a clean breach through and through her. Every light had been extinguished by the sea, and the night being very dark, no one, unassisted, could scale the cliff, and to remain on the wreck seemed quite impossible. At this critical moment it was ascertained that at the first time the boat struck the rock and when she was high upon the wave, one of the

wheelmen and the second engineer, Mr. Munson, with a small cord had made the fearful leap against the rock, and fortunately, without knowing anything of the place and not able to see anything for the darkness, they caught the root of a tree that had run far below the surface, by the aid of which they scaled the heights. The wheelman went immediately in search of help and lights, and the engineer dropped his rope on the deck of the wreck, directing it to be made fast to some light man. It was done, and the man from the top drew up the man from the wreck, and the two drew up the third, and so on until the 60 men, women and children were taken up. Many of the passengers, especially the women, were badly lacerated, by being hauled up so rapidly over those pointed crags. The rope was thrown down and no one seized it, and after frequent and loud calls from the people on the cliff, it was presumed that all were saved who were alive, but on visiting the wreck the next morning several were found alive and taken off. The number of passengers on the boat was not known, and of the dead bodies of those washed off the wreck none were ever found. One woman perished during the night, and was washed overboard. B. Joy, of Pennsylvania, was seriously injured by the breaking of the rope when being drawn up. His leg and collar bone were broken, but he fell on the deck and was again drawn up and saved. The cliff against which the boat struck was 50 feet high.

In the above fearful night the schooner Lexington, Captain Peer, cleared from the port of Cleveland for Port Huron, freighted with 110 barrels of whiskey, 53 tons of coal and two boilers. The schooner foundered in the vicinity of the islands, when portions of the wreck were discovered. The crew, including the captain, consisted of six persons, all of whom found watery graves.

*A Memorable Storm.*—Among other disasters on the memorable November 19, 1846, were the following: Schooner Racine, in command of Captain Dorchester, and owned by T. Richmond & Co., ashore near Madison dock; insured for \$7,500. Brig Osceola ashore and total wreck at Silver



creek; four lives lost. Schooner Swan ashore near Barcelona. Schooner Harwich ashore near Barcelona. Sloop Bayona, of Conneaut, capsized off Barcelona; three lives lost. Steamer Indian Queen ashore near Silver creek. Schooners Pilot, Merrill, Vieau Savannah and Black Hawk ashore between Manitowod and Twin Rivers. The Charles Howard, schooner United States, J. H. Lyon, of Toledo, Huron, of Cleveland, ashore, the Dayton, of Black River, sunk at Erie. Brig H. H. Sizer and schooner Alps ashore near Erie. Schooner Ainsworth, of Cleveland, wrecked at Oswego. Canadian schooner Grampus wrecked on Lake Ontario. Schooner Minerva ashore at Braddock's point. Schooner W. H. Merritt ashore near the Minerva. Schooner Western, in command of Captain Bassett, ashore on the bar at Irondequoit bay. Schooner Missouri ashore at Braddock's bay.

*Wreck of the Schooner Lexington.*—The schooner Lexington, of Algonac, owned by and in command of Capt. James L. Pier, left Cleveland November 17, for Port Huron. She was freighted with 110 barrels of whiskey, 53 tons of coal and two boilers. When off Huron, Ohio, she was met by the terrific gale of the 19th, and soon foundered, with all on board, numbering 13 persons, among whom were the captain's wife, and the mate, Will Landon, also of Algonac. When the wreck was discovered the masts were visible and the sails were still up.

*How the Chesapeake Went Down.*—The steamer Chesapeake, while in command of Capt. N. H. Warner, collided with the schooner John A. Porter, Capt. John A. Thomas, one morning in June about half past twelve o'clock, some five miles off Conneaut, with the loss of about 13 lives. It was some two hours after the collision, when every possible effort had been put forth to pump her out, that she was brought to anchor, and gradually went down in 40 feet of water. The passengers numbered between 40 and 50, an unusual proportion being women and children. Captain Warner's wife managed to reach the masthead, and remained there after the steamer sunk and until rescued by the Harrison. While the Chesapeake was lying at anchor,

gradually sinking, and just before she went down, a gentleman sought his wife who was standing on the hurricane deck, and thus accosted her: "Well, wife," said he, "that long mooted question will very soon be settled with us." "What do you mean?" inquires the wife; "to what question do you refer?" "Why," he said, "the question whether that old Red Dragon had seven heads and ten horns, or ten heads and seven horns," "Oh, husband," responded the lady, "how can you jest at such a time as this?" In about ten minutes the boat went down, and as luck would have it, this jester was saved. He was the editor of the Cincinnati Sunday paper, and his name was G. W. Bradbury.

A touching incident was the death of Daniel A. Folsom. When the engineer ceased to work, the yawl boat was manned and sent ashore in charge of Mr. Shepherd, the clerk. Ten men were put on board and four women, among the latter being Mrs. Folsom. She at first refused to go without her husband. He knew it was no time to debate the question and seizing their child put it a broad. She immediately followed, and the husband took an affectionate leave of her at the gang plank as the boat departed. He afterward joined a friend in making a raft on which they floated for some time, but, supposing they could do better by separating, he took his plank alone and was never heard of afterward; his friend was saved.

*Other Events of 1846.*—There was one steamer less on the lower lakes by the removal of the steamer Julia Palmer to Lake Superior. She was hauled over the portage at the Sault in the fall of 1845, and in 1846 placed in command of Capt. Benj. A. Stanard. The Boston, a fine new steamer of 775 tons burden, built at Detroit, commenced plying early in 1846, in command of Capt. W. Tease, who had for several years been in the forwarding business at Detroit. The Boston, during a gale, was wrecked at Milwaukee in November, the same year she came out. From some cause much more than the usual sickness prevailed among seamen throughout the lake region,



chiefly chill fever. The schooner General Houston arrived at Cleveland with the entire crew sick, and it was with great difficulty that the vessel was navigated into port. Another vessel's arrival was noted with five of the crew sick, two of them so badly that they had to be carried ashore for medical treatment. George Mills, in charge of the government dredge at St. Louis flats, registered the number of vessels passing both ways for the month of July, 1846, as follows: Steamboats, 71; propellers, 37; brigs, 59; schooners, 128, and coasters, 81; total for the month, 384. There were 31 of all classes grounded, and had to be lightered over. In the month of June a greater number passed over, and a greater number stranded than in the month of July. In the spring of 1845 Lake Superior was navigated by only three small schooners, which were reinforced this season by a steamboat, a propeller and ten schooners. The steamer General Scott, commanded by Capt. John Scott, early in the season burst her boiler, near Mackinaw, killing one man and badly scalding two others. The steamer Bunker Hill collided with the brig Fashion, on Lake Erie, near Fairport. The steamer towed the brig into that port in a sinking condition. The steamer had a hole stove in her bow, and a part of her larboard wheelhouse and a portion of her cabin carried away. The brig was freighted with 3,000 bushels of wheat besides a quantity of flour. In 1846 the Maid of the Mist was built in the eddy below Niagara Falls, just above the railroad suspension bridge. She was run up to the cataract, and was a success in every way but financially. In 1846 Chicago became a port of entry, having previous to that time been included in the collection district of Detroit. The sloop Brandywine capsized off Barcelona and was a total loss; three men perished. Steamboat Waterloo, Capt. Midmer, was wrecked in Georgian Bay. Steamboat Boston was wrecked at Milwaukee, a total loss. Steamboat Brothers sunk in the river Thames, below Chatham. The steamer John Owen, Capt. Ira Davis, was the first arrival at Buffalo in the spring of 1846, on April 4, followed soon after by the propeller Phoenix and steamers General Harrison and

Ben Franklin. The steamer Lexington, Capt. G. Appleby, which left Buffalo on that date, was the first to arrive at Detroit. January 12: Steamer Helen Strong, in command of Captain Capron, arrives at Conneaut, the first arrival of the year on Lake Erie. April: Steamers Sovereign and Transit disabled by collision at Toronto; passengers taken from both boats by the Queen; 16, brig Virginia on a reef near Buffalo; 14, schooner Savannah ashore during a storm near Twin Rivers; brig Europe and schooner Wyandot collide at Silver Creek, by which the latter sustains serious injuries. May: Steamer Madison disabled on Lake Michigan; passengers transferred to the steamer Missouri. June: Schooner H. H. Sizer capsized east of Southport; several lives lost; survivors rescued by the schooner Knickerbocker. September: Steamer Oregon, owned by Mr. Phillips, of Buffalo, provided with two iron lifeboats, capable of holding 100 persons, the first boats of the kind on the lake. Propellor Goliath wrecked off Black river; owned by M. Truesdell, of Detroit; loaded with 9,000 bushels of wheat and 1,000 barrels of flour, thus being the heaviest wreck of breadstuffs ever known on the lakes. Propellor California wrecked at Point Pelee; released September 23 by steamer Dewitt Clinton. October: Schooner Mary Elizabeth wrecked, bound from Green Bay to Cleveland. 19, Schooner Ainsworth ashore at Ashtabula; Schooner Rainbow ashore at Erie; 22, brig Ellen Parker, with 14,000 bushels of wheat, and schooner Westchester, with 8,500 bushels of wheat, ashore near Buffalo; 20, schooner Malcolm sunk at the wharf at Oswego; November: Schooner Marshall Ney sunk in 20 feet of water at Cleveland by collision with the propeller Cleveland.

1847.

*Appalling Loss of the Phoenix.*—The season of 1847 closed with one of the most terrible disasters that ever visited the lake region, the destruction by fire of the propeller Phoenix on Lake Michigan with the loss of 190 lives. The Phoenix was commanded by Capt. B. G. Sweet. While upward bound, on Sunday, November 2, at about 4 o'clock, some 15 miles north of

Sheboygan, and several miles from the shore, a fireman on duty discovered flames on the under side of the deck above the boiler. Mr. House, who was then on duty as engineer, discovered it at the same moment, when to all appearances the fire covered but a small space. It rapidly spread along the under side of the deck. Three pumps and several lines of water buckets were put in operation immediately, but it was found impossible to check the flames. A scene of the most terrible confusion ensued. The propeller was crowded with Holland emigrants, some of whom jumped overboard without support. Others ascended the shrouds, clinging in masses to the ratlines, up to the very crosstrees, from which as the fire reached the combustible material they were soon precipitated into the burning mass beneath. There were about 250 souls (passengers and crew) on board, of whom 25 were cabin passengers, 5 American steerage passengers, and 160 Hollanders.

The propeller Delaware arrived at the scene of disaster about two hours after the fire was discovered, and rendered all the assistance in her power to rescue those in the water. Captain Sweet had been confined to his berth for several days. He was saved in the small boat, with several others of the crew and one or two of the passengers. The burning hull of the Phoenix was towed to the shore near Sheboygan. The engineer, Mr. House, saved himself on one of the fenders.

Two Misses Hazelton, of Sheboygan, were on their return home from the East, where they had been attending school. When all hope of being saved was gone, they joined hands and jumped overboard together and immediately disappeared from sight.

An extra from the Sheboygan *Mercury* stated the loss of life at 250 and over, and that the fire originated from the boilers not being filled with water, and becoming heated so as to ignite the wood lying adjacent, and was not discovered until the flames burst forth instantly enveloping the whole boat.

The Phoenix was built at Cleveland,

was 350 tons burden, had been running two seasons, and was owned by Pease & Allen, of that city. At the time of her destruction she had a full cargo of merchandise.

*Drowned at the Sault.*—In the month of June a distressing accident occurred at the Sault Ste. Marie. A party of citizens and visitors procured a yawl in which to "shoot the falls," a feat at times considered hazardous, yet, hitherto, without serious accident. The party on this occasion was nine in number, consisting of Capt. John Stanard, Capt. Robert Brown, Messrs. E. G. Seymour, Thomas Riches, John Parker and William Flynn, of the Sault; Dr. Hugh T. Prouty, of Monroeville, Ohio, and Mr. Wales, clerk of the steamboat St. Clair.

When about half way down the rapids the boats shipped a breaker. Bailing was commenced, but a moment later the boat, having reached what is called the "big leap" (being some eight or ten feet in descent), was by a reaction thrown on end, after descending, and all were precipitated into the foaming rapids. The catastrophe was witnessed by many citizens on shore. Boats were immediately procured and put out to render assistance. Messrs. Stanard, Brown, Wales, Spafford and Parker succeeded in sustaining themselves until picked up by an Indian chief who was fishing. Mr. Seymour was discovered floating at the bottom of the river, and was rescued only by means of a spear, in which the chief succeeded in entangling his coat and then raising him to the surface. The other three, Dr. Prouty and Messrs. Riches and Flynn, were drowned.

*Loss of the Schooner Daun.*—One of the sad events during navigation was that of the schooner J. C. Daun, which was capsized by a squall on Lake Erie while off Conneaut. The Daun was from Sacket's Harbor, and was sailed by Capt. Lyman Miner. The crew consisted of 11 persons, 8 of whom were lost. Captain Miner, his cousin, Edward Miner, Paul Dever and Dexter Whipple succeeded in getting upon the bottom of the vessel. During the night Whipple died from fatigue. About six o'clock on the following morning the brig



Uncle Sam took the remaining three off, and landed them at Ashtabula.

*A Large Mineral Cargo.*—The propeller *Goliah*, Capt. M. H. Esterbrook, came down from the Sault with the largest cargo of minerals of this season, for the Pittsburgh & Boston Company. Of the cargo 164 tons were native copper in rock, 80 tons being in masses weighing from 500 lbs. to 2,900 lbs., and estimated by many to be worth 80 per cent. of the pure metal.

*Disaster on Lake Superior.*—The schooner *Merchant*, Capt. Robert More, with a crew of seven beside seven passengers, was lost, with all on board, in June, on Lake Superior, with a cargo of supplies. She was formally owned at Buffalo by Barker & Holt, but at the time of her loss was owned by Coe & Colt. A furious gale prevailed at the time, and it was supposed she foundered.

*Other Events in 1847.*—Steamer *Chesapeake* sunk by collision with schooner *John F. Porter*, off Conneaut. Total loss with 11 lives. Schooner *Porter*, cargo of corn and pork, total loss also. Schooner *Aurora Borealis* on a reef near Malden and sunk; cargo of staves; raised. Brig *Francis Mills*, cargo of staves, sunk off Erie. Steamer *London* sunk a vessel, name unknown, near Malden. The season of 1847 was more eventful in the loss of life and property than any preceeding it. Navigation was resumed at Buffalo, April 23, the steamer *Chesapeake*, Captain Warner, arriving on that date, the first boat in. The Straits of Mackinac were clear April 28, the steamer *Louisiana*, Captain Davenport, the first boat through the Erie canal May 1. April 22: Steamers *Nile*, *Lexington*, *Rochester* and schooners *Hudson*, *Trenton* and *Massachusetts* and brig *Winslow* blocked in the ice near Buffalo, from which they sustained injury. May: Schooner *Marshal Ney* sunk by collision with a reef near Bird island. Schooner *C. J. Darlie* wrecked off Conneaut, Lake Erie. Schooner *New Brunswick* left Chicago with 18,000 bushels of wheat for Liverpool *via* Welland canal and St. Lawrence; this was the first clearance of the kind ever made from the waters of the Great Lakes for an European port.

June: The brig *Santillo* sunk by collision with the propeller *Manhattan* on Lake St. Clair; vessel new, first trip. July: Steamer *Constitution* sunk at Sandusky, at the dock. September: Schooner *Courier* sunk by collision with the brig *Monteith*, in command of Capt. M. Dimmick, between Erie and Conneaut. Schooner *Wisconsin* totally wrecked at Death's Door. Propellers *Pocahontas* and *Racine* damaged by collision on Lake Erie. The revenue cutter damaged by lightning near Mackinaw. October: Schooner *Acorn* damaged by collision with the schooner *Speedwell* at Cleveland. Schooner *Charles Walker* damaged by lightning, in the Straits of Mackinac. Schooner *Adair* capsized near Dunkirk. Schooners *J. W. Brown*, *N. C. Baldwin*, convoy, and brig *St. Louis* damaged by collision at Buffalo. Propeller *Monticello*, launched at Fairport, owned by Col. D. Russell and Geauga Iron Company; the finest boat of the kind ever built at that port. November: Schooner *E. Morgan* damaged by collision with the schooner *Ontonagon* on Lake Michigan. Schooner *Lawrence* wrecked at Stony Island. Schooner *Margaret Allen* ashore and wrecked near Death's Door.

1848.

*The Gale of April, 1848.*—Soon after navigation was resumed one of the most violent northeast gales swept over the entire lake region, causing the destruction of half a million of property, beside numerous lives. The steamer *Oregon*, Captain Chapman, bound westward from Buffalo, when off Fairport, had both smokestacks swept overboard. Her anchor was let go with a full scope of chain, and while swinging to her anchor an immense sea boarded her and swept her cabin from the main deck, baggage rooms and baggage, all on board having previously fled to the upper cabins. In this dilemma she dragged until the day following, when off Cleveland, the steamer *Diamond* went to her rescue and towed her into that port. The storm set in April 18, and came more in the shape of a cyclone, and gradually settled into a gale of two days' duration.

The steamer *Niagara*, on Lake Ontario,



belonging to the Ogdensburg line, was driven ashore at the mouth of the Genesee river and was wrecked. Five vessels went ashore at Sandusky peninsula, and, in short, wrecks were scattered promiscuously on all the lakes. The brig General Worth, built by Mr. Treat, had just been launched the day previous at Euclid, below Cleveland, met the full force of the storm, but was by superhuman efforts protected and saved from destruction.

*Explosion of the Goliah.*—The saddest of the season's casualties was the destruction of the propeller Goliah, by fire and explosion, on Lake Huron, with the loss of 18 lives. The Goliah left St. Clair river September 13, with a very heavy cargo, consisting in part of 200 kegs of powder, 20,000 bricks, 30,000 feet of lumber, 40 tons of hay, and about 2,000 barrels of provisions and merchandise, destined for the Lake Superior mining companies. On Thursday morning, soon after daylight, she was seen about eight miles from shore, with her mast and smokestack overboard, the wind blowing southeast by east, and the steamer drifting toward shore. It was evident, from the large volume of smoke that issued on her that she was on fire. She drifted to within 10 miles of the shore, the surf being very high and the wind subsiding. About 9 A. M. the wind shifted to southwest, and the burning hull receded from the shore, and when about three miles out exploded with a tremendous noise, throwing fire and fragments to a great height. Efforts were made by a Mr. Whitcomb and others to launch a boat, with a view of rendering assistance, but the heavy breakers prevented getting a boat beyond the surf. It was ascertained that about 18 persons were on board; Captain Cottrell, Captain Beckley and Lieutenant Schwartz were of the number. There were not less than 15 persons on shore who saw the burning and explosion of the propeller. The schooner Spartan, Captain Fuller, left the St. Clair river three hours behind the Goliah, and after several hours' sail, saw, heard and distinctly felt the explosion, though many miles distant.

The charred upperworks of the ill-fated

craft were discovered at Pine Point, above Goderich, the mast coming ashore at Kincardine. Among the articles that came on shore were two or three hundred barrels of flour and corn meal. No bodies were ever found.

*Chicago's First Locomotive.*—The first locomotive at Chicago, the "Pioneer," used on the Chicago & Galena road, afterwards the Northwestern, arrived in Chicago from Buffalo October 10, 1848, on the brig Buffalo.

*Niagara Falls Dried Up.*—The winter of 1847-48 had been an exceptionally severe one, and ice of unusual thickness had formed on Lake Erie. The warm spring rains loosened this congealed mass, and March 29, 1848, a brisk east wind drove the ice far up into the lake. About sunset the wind suddenly veered round and blew a heavy gale from west. This naturally turned the ice in its course, and, bringing it down to the mouth of the Niagara river, piled it up in a solid, impenetrable wall.

So closely was it packed and so great was its force, that in a short time the outlet to the lake was completely choked up, and little or no water could possibly escape. In a very short space of time the water below this frozen barrier passed over the Falls, and the next morning the people living in the neighborhood were treated to a most extraordinary spectacle. The roaring, tumbling rapids above the Falls were almost obliterated, and nothing but the cold, black rocks were visible in all directions. The news quickly spread, and crowds of spectators flocked to view the scene, the banks on each side of the river being lined with people during the whole day. At last there was a break in the ice. It was released from its restraint, the pent-up wall of water rushed downward, and Niagara was itself again.

*Other Events of 1848.*—During the month of October the Canadian schooner Adventure, laden with stone, foundered off Grand river, Canada, and all on board, three lives, were lost. She was in company with the T. B. Ruggles at the time, and both were standing on the same tack. The brig H. G. Stambach, of Conneaut, Ohio, capsized off Fairport, August 28, drowning three of

the crew. An incident of fast sailing in 1848 is related of the propeller St. Joseph, Capt. H. Squier, which performed the trip to Buffalo from Detroit in 29 hours and 45 minutes. On her return by way of Cleveland the run was made in 30 hours and 20 minutes; the time from Cleveland to Detroit, 11 hours and 30 minutes. January 24: Propeller Cleveland arrives at Cleveland from Black river. Navigation opened at Buffalo March 30; the steamer United States the first boat out. The straits of Mackinaw were clear April 28; the steamer Louisiana, Capt. I. J. Richards, the first boat through going west. April: Schooner Algolah, wrecked at Racine; schooner Eleanor, engaged in the lumber trade on Lake Ontario, wrecked at Burlington Beach; schooners Sciota and Mary A. Myers capsized near Silver creek. May: Schooner Porter sunk by collision with the piers at Conneaut. July: Steamer Empire sunk at Kingston by the force of the wind. August: Steamer St. Nicholas sunk by collision at Fairport; passengers, numbering 150, transferred to the Catilina. October: Steamer Scott sunk in Lake St. Clair by collision with the schooner Star; brig Sandusky sunk at Long Point. November: Brig Amazon ashore near Buffalo; schooner Marion sunk at the dock at Buffalo; steamer Fashion damaged by collision with sunken remains of the steamer Columbus near Dunkirk; schooner Jessie Smith wrecked on Lake Michigan; schooner Scotland, ashore at Port Stanley, becomes a complete wreck; schooner Ottawa wrecked at Port Stanley. December: Steamer Indiana burned and sunk at Conneaut; loss \$20,000.

The following craft also passed out of time during the navigation of 1848: Steamer Columbus wrecked on Dunkirk pier; steamer Kingston wrecked in St. Lawrence river; propeller Goliath exploded on Lake Huron, 18 lives lost; barque Eleanora wrecked at Hamilton; bark Buffalo wrecked on Manitou island; brig Empire sunk by collision in Lake Erie; brig Iowa wrecked on Point Albino, Lake Erie; schooner Josephine wrecked at Dunkirk; schooner Tribune foundered in Lake Michigan, 10 lives lost; schooner J. Y. Scammon wrecked near

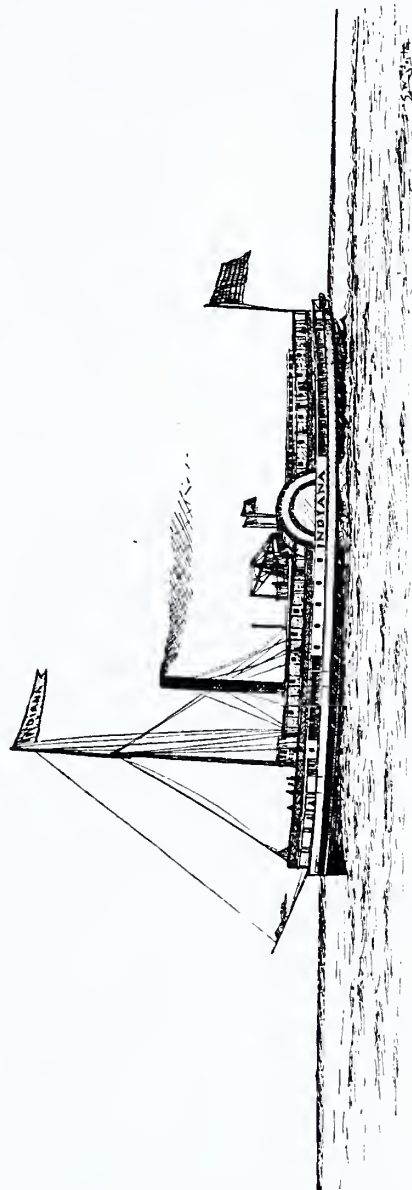
Calumet, 2 lives lost; schooner Eagle capsized on Lake Michigan, all lost, 7 lives; schooner Pilgrim wrecked at Port Maitland, Lake Erie; schooner Gallinipper capsized on Lake Michigan, crew saved; schooner Jessie wrecked on Long Point, Lake Erie; schooner Essex wrecked on Bass island, Lake Erie; schooner Constitution wrecked on Long Point, Lake Erie; schooner Ellen wrecked at Wellington, Lake Ontario, 8 lives lost; schooner Jessie Smith wrecked on Lake Michigan; schooner Uncle Tom wrecked on Long point, Lake Erie; schooner "76" wrecked on Lake Michigan; schooner Robinson wrecked on Presque Isle, Lake Ontario; schooner Oneida wrecked on Lake Michigan, near Chicago; schooner Martha Freeme wrecked at Port Burwell; schooner Ottawa wrecked near Port Stanley; scow Rainbow wrecked near Barcelona.

1849.

*Vessel Sails for California from Cleveland.*—One of the most notable occurrences during the season of 1849 was the departure from Cleveland of the bark Eureka for California *via* the river and Gulf of St. Lawrence, and with two or three exceptions, the first experiment of sending lake vessels on sea voyages. The Eureka was owned by W. A. Adair, and took her departure in May, having on board 59 passengers. The captain was William Monroe, and first mate F. H. Freeman. The voyage was a success, and all were landed in safety.

*Cholera Breaks Out.*—The cholera was alarmingly prevalent in 1849 at nearly all the lake ports, and many deaths occurred on ship board. Among those carried off was Captain Chesley Blake, long in the employ of Oliver Newberry, Detroit. This veteran sailor, who had been on the lakes since 1818 and was well known as an able commander, died at the American House, Milwaukee, October 3. He was taken with cholera on board of the steamer St. Louis, on her trip up to Chicago, while on Lake Michigan.

*Fatally Scalded on the Passport.*—In 1849 there was a terrible accident to the Canadian steamer Passport, on her trip up



From "*American Steam Vessels*," Copyright 1895, by Smith & Stanton.

STEAMBOAT INDIANA.

Built at Toledo, O., in 1841. Ran between Toledo and Buffalo until burned at Conneaut, O., in 1848.





the St. Lawrence from Montreal to Kingston, by which 44 of her passengers were severely scalded by escaping steam from the engine. About 14 of the scalded died from the effect of their wounds.

*Other Events of 1849.*—The season was an unusually dull one, both in freight and passenger traffic, owing chiefly to the epidemic which prevailed. The steamer Oregon was burned at Chicago early in the season; loss \$15,000. The schooner Outward Bound, Capt. John Church, foundered; eleven lives lost. In 1849 there were afloat upon the northern lakes, craft of every description, a total of 914 vessels as follows: Of side-wheel steamers, there were 95, with a total of 38,492 tons; 45 propellers, 14,435 tons; 15 barques, 1,645 tons; 93 brigs, 21,330 tons; 548 schooners, 71,618 tons; 128 sloops and scows, 5,484 tons, with a total valuation of \$7,868,000. January 27: Sloop Speedwell, in command of Captain Ackerson, leaves Cleveland for Vermilion, the first clearance of the season. March 20: Scow Diana, in command of Captain Dayton, arrives at Cleveland from Black River; first arrival of the season. May 26: Sloop Planet, built at Geneva, Ohio, launched; afterward on her trial trip capsized and Capt. Chas. Bogrand drowned. June: Schooner Merchant lost at Point aux Barques; five men drowned. Steamers Saratoga and Hendrik Hudson collide below Erie, by which the latter sustains serious injuries. Steamer New Orleans wrecked at Thunder Bay island; passengers rescued by the Nile, in command of Captain Pierce. July: Sloop Morning Star, in command of Captain Miesel, sunk at Sandusky bay. Loss \$600. Schooner Acorn sunk by collision with steamer Troy near West Sister island. Steamer Empire State ashore near Sleeping Bear; passengers transferred to the Delaware. The Empire State was the largest boat on the lakes, owned by Montith, Hazard & Co., and valued at \$180,000. Brig Stambach capsized near Fairport; three lives lost. September: Schooner Big Z, of Silver Creek, sunk at Cleveland. Propeller Detroit and schooner William and brig Rocius and schooner Breeze collide at Cleveland. Steamer Ben Franklin sustains

severe injuries on Saginaw bay. Schooner La Salle capsized near Racine. October: Schooner W. G. Buckner capsized off Milwaukee; crew rescued by the schooner Erwin. Lighthouse burned at Cleveland. Schooner Milan, in command of Captain Richardson, sunk off Oak Orchard. October: Propeller Globe sunk near Point Albino. December 27: Navigation still open between Buffalo, Cleveland and Chicago.

1850.

*Burning of the Griffith.*—The navigation season of 1850 was long remembered as the most disastrous in loss of life that had yet been recorded. By the burning of the steamer G. P. Griffith of Chagrin, 20 miles east of Cleveland, June 17, 286 lives were lost, one of the greatest casualties that has ever occurred on the lakes.

The Griffith had just been purchased by Capt. C. C. Roby and W. Studdiford, his brother-in-law, of Detroit, and took her departure from Buffalo on Sunday morning, the day before the fire, for Chicago. There were 256 in the steerage, 45 in the cabin, and a crew of 25. Not a woman or child was saved except the barber's wife. The steamer was about three miles from shore when she took fire, at four o'clock in the morning. When the first alarm was given the passengers were cool and collected. It was thought that the boat could reach land, for which she was steering, and that thus all would be saved. But the steamer struck upon a sand-bar half a mile off shore and then panic reigned. The passengers became wild with despair and a great number of them plunged madly into the water. Captain Roby, his wife, two children, and mother were of the lost. As soon as the boat struck he gave the command "overboard all," threw his wife overboard and then jumped after her, when both were drowned together. The mate swam ashore and obtained boats, by means of which several of the survivors escaped, but over 100 of the passengers were drowned soon after jumping overboard.

A searching party set out at once for the bodies of the lost, and in a short time the beach was strewn with 100 of them. So

closely had they sunk that at one time 8 bodies were recovered by drawing one to the surface with a hook. The boat was insured in Buffalo for \$27,775. The propeller Delaware reached the burning wreck and towed it ashore.

*Wreck of the Anthony Wayne.*—The explosion of the boilers of the steamer Anthony Wayne, early on the morning of April 28, resulted in the complete destruction of the vessel and in the loss of many lives. The vessel left Toledo the previous morning with 25 passengers, and reached Sandusky the same day,—there adding about 40 to the list. At 10 P. M. she left Sandusky and after about two and a half hours, when about 8 miles from Vermilion, met with the disaster, which resulted in the drowning of eleven members of the crew, and a large number of the passengers.

Fortunately the hurricane deck aft was cleft in two so that it floated, allowing several people to stand upon it. It was kept stationary by the tiller ropes, which still hung to the rudder and the forward part of the foremast. But a short time after the explosion, most of the passengers were seized with fright and jumped into the water, having just caught hold of anything that might lend an aid in floating. The night was clear and the sea not rough, but all who were wet suffered intensely with the cold, and they who had been scalded made piteous moans, crying for help and for water.

The captain, the clerk, H. D. Vance, one fireman and two passengers launched the lifeboat and drifted ashore, and started two sail vessels from Vermilion, which brought aid to some who had thus far remained afloat.

It was the two starboard boilers that exploded, throwing them into a perpendicular position, tearing away the steerage cabin above, and shattering the hull badly. The steamer sunk in 15 minutes, going down head first, and carrying away the steerage cabin and the foremast, on which were six persons. The yawl was launched and 12 persons reached the shore in it. The lifeboat half filled on launching and leaked badly, but with its six occupants

got ashore after six hours constant bailing. The stateroom of the captain, next to the steerage, was blown to pieces and his bed blown upside down, but he was unhurt. When the steamer went down she was on fire. Three-fourths of the boat was owned by Charles Howard, of Detroit, and one-fourth by Capt. E. C. Gore, who was in command. She was valued at \$20,000, and insured in part. She had but little freight on board, but 300 barrels of high wines and whiskey from Sandusky. The Anthony Wayne was built in 1837, and rebuilt in the winter of 1849. The number of lives lost has been variously estimated and has been placed as high as 69.

*Many Lives Lost on the Troy.*—The steamer Troy, commanded by Capt. Thomas Wilkins, exploded her boiler on her way to Black Rock and opposite Bird island pier, near that place, on March 23. A number were killed outright, while others jumped overboard and were drowned, besides several who died from injuries. Twenty-two perished.

*Extent of the Losses in 1850.*—The loss in value on steamboats in 1850 was \$265,700, on propellers \$30,444 and on sail vessels \$262,782, making a total loss of property of \$558,926. Ten steamboats, including two tugs, 21 sail craft, and one propeller, the Petrel, passed out of existence. The loss on propellers was exceedingly light, but on sail vessels large in proportion to the value and number of the craft; the aggregate loss was the largest and accidents most frequent among steamboats.

The loss of life aggregated 431; 29 on the steamer Troy, 65 on the steamer Anthony Wayne, 38 on the steamer Commerce, 280 on the steamer G. P. Griffith, 11 on the steamer America, one on the steamer Canada, one on the Calumet, one on the scow H. M. Eddie and one on a scow which capsized at the wreck of the Griffith.

*Other Events of 1850.*—January 19: Steamer Oregon burned at Chicago. March 2: Navigation opened at Cleveland by the steamer Arrow; 25, navigation opened at Buffalo, the steamer Southerner, Capt. J. L. Edmunds, being the first boat to leave. April: Schooner Lawrence sunk near St.



Helena by collision with the pier. May: Canadian steamer Commerce a total loss by collision with the steamer Despatch off Grand River, Canada, and about 40 lives were lost; the Commerce had aboard a detachment of the 23d Regiment; steamer America considerably damaged by fire on Lake Erie, near Buffalo. June: Brig Flora collides with steamer Baltic near Buffalo, and sustains severe injuries. July: Steamer America damaged by explosion of her boilers, and towed to Erie by the Alabama; several lives lost. August: Steamer Lexington sunk on Lake Erie near Conneaut by collision with the propeller Allegheny; schooner Neckeck capsized on Lake Ontario and towed to Cape Vincent; pro-

pellor Globe sunk near Point Albino, last fall sold to Messrs. Nott, of Cleveland, for \$9,000; schooner Howard sunk at Racine; brig Maurice wrecked at Wind Point; schooner Thornton wrecked on Lake Michigan; several lives lost. October: Brig Europe wrecked on an island in Green bay, a total loss; brig S. F. Gale collides with and is sunk by the schooner Telegraph on Lake Huron. December: Brig Henry Clay sunk in the Straits of Mackinac; schooner Columbia ashore near the Henry Clay; schooner Sea Bird sunk on Lake Erie off Black River. The steamer Squitherner was during this season put between Detroit and Cleveland, in connection with the steamer Baltimore, which was the inauguration of that route.

## CHAPTER XXXVII.

1851-1860.

WRECK OF THE HENRY CLAY, 1851—OTHER EVENTS OF THAT YEAR—A FRIGHTFUL COLLISION, 1852—LOSS OF THE STEAMER CASPIAN—LOSS OF THE ONEIDA—OTHER LOSSES—OTHER EVENTS OF 1852—GROUND BROKEN FOR THE SAULT SHIP CANAL, 1853—LOSS OF THE OCEAN WAVE—INDEPENDENCE WRECKED BY EXPLOSION—TESTS OF SPEED—DISASTERS OF 1853—OTHER EVENTS OF THAT YEAR—STEAMER E. K. COLLINS BURNED, 1854—GRADUAL CHANGE IN LAKE CRAFT—CHICAGO HARBOR DREDGED—OTHER EVENTS OF 1854—OTHER DISASTERS OF THE SEASON—SAULT CANAL COMPLETED, 1855—IMPROVEMENT OF ST. CLAIR FLATS—WRECK OF THE OREGON—WRECKS AT CHICAGO—SHIPBUILDING ACTIVE—THE QUEEN CHARLOTTE BURNED AT TORONTO—HULL OF THE ERIE RAISED—OTHER EVENTS OF 1855—OTHER VESSELS PASSED OUT OF EXISTENCE IN 1855—VOYAGE OF THE DEAN RICHMOND, 1856—LAKE SUPERIOR LINE—BURNED UNDER FULL STEAM—LOST WITH NEARLY FIFTY SOULS—MANY LIVES LOST ON LAKE SUPERIOR—OTHER DISASTERS IN 1856—OTHER EVENTS OF THAT YEAR—THE FINANCIAL PANIC OF 1857—DEPARTURES FOR EUROPE—MANY STEAMERS DISMANTLED—HOLOCAUST ABOARD THE STEAMER MONTREAL—MANY OTHER STEAMERS BURNED—RAILWAY DISASTER AT THE DESJARDIN CANAL, CANADA—OTHER EVENTS OF 1857—FEW VESSELS BUILT, 1858—VESSELS LEFT FOR OCEAN VOYAGES—STATISTICS—OTHER EVENTS OF 1858—TRADE STILL BACKWARD, 1859—LARGE ICE TRADE—PASSAGES OF VESSELS AT DETROIT—OPENING OF NAVIGATION—OTHER EVENTS OF 1859—WRECK OF THE LADY ELGIN, 1860—TOTAL LOSS OF THE DACOTAH—THE SAULT CANAL—OTHER EVENTS OF 1860.

1851

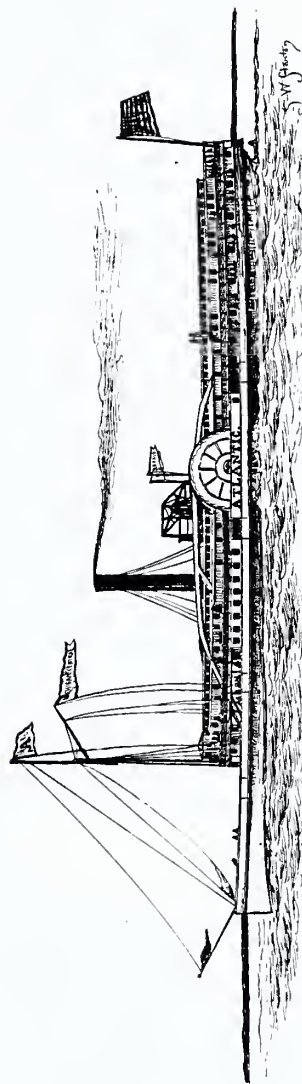
THE most disastrous event of the season of 1851 was the total wreck of the propeller Henry Clay, which rolled over near Long Point, Lake Erie, with a loss of six-

teen lives. The Henry Clay left Detroit, October 24, for Buffalo, and on the night of the following day, in a severe gale off Long Point, a part of the deck load shifted and was thrown upon the engine, breaking it and making the vessel unmanageable. The

high waves tore the deck from the hull and it floated off with ten of the crew, all of whom were lost except one deck hand, picked up by a passing schooner. The hull was beached near Long Point. The Henry Clay was commanded by Capt. George Callard. She was loaded with flour and wool. Of the crew of 17 only one was saved.

*Other Events of 1851.*—There were 263 disasters during the season (1851) with a loss on hull and cargo amounting to \$730,537, and 79 lives. Navigation opened at Buffalo, April 2, the steamer Canada being the first to depart. The Straits of Mackinaw were clear April 3. The first notable incident of the season was the explosion of the Canadian steamer Comet, at Oswego, with the loss of eight lives. She was afterward rebuilt, and her name changed to Mayflower. The Champion, Highlander and Mayflower in 1851 formed a line between Niagara and Montreal, touching at intermediate points, and the Maple Leaf, Arabian and New Era were added to the line the next year. April: Steamer Southerner disabled near Point Pelee; loss \$5,000. Schooner Moses and Elias wrecked on Bass island; loss \$4,000. Schooner E. Bowen ashore at Grosse Point. Schooner Wabash totally wrecked at Port Dover. Schooner Atlanta wrecked near Dover. Schooner Brewster wrecked near Port Dover. British brig Beaver sunk at Rondeau; 20, steamer Comet exploded and sunk in Oswego harbor, eight lives lost. Propeller Allegheny damaged to the extent of \$4,700, by collision with the propeller Ohio, on Lake Huron. Schooner Palmyra wrecked at Gull island. Schooner Rush filled and capsized by collision with propeller Paussett on Lake Erie. May: Schooner Ellen Stuart sunk at Long Point cut. Steamer Sultana damaged to the extent of \$4,000 on Lake Erie. Schooner Dawn sustains a loss of \$4,740, during a storm on Lake Erie. Brig Mayflower disabled on Lake Erie. Brig Ramsey Crooks disabled, and jetted deck-load. Brig Constellation disabled. Schooner D. D. Bogart sunk at Dunkirk. Steamer Dewitt Clinton sunk at Dunkirk. Schooner O. V. Brainard ran ashore on Lake Ontario and burned; loss \$6,590. Schooner Gallinip-

persunk in Milwaukee harbor. Schooner Clay lost off Ashtabula. Schooner Marvin Henry totally lost off Grand Haven, nine lives lost. June: Schooner Mackinaw sunk off Cleveland by propeller Princeton; schooner Welland sunk in St. Lawrence river; steamer Atlas sunk in St. Lawrence river. July: Schooner Gallinipper capsized and lost on Lake Michigan; schooner Rose, Canadian, wrecked on Georgian Bay, Lake Huron; schooner Acorn loses deck-load in a gale on Lake Ontario; scow Sacramento capsized off Buffalo; propeller Manhattan sunk by collision with the propeller Monticello on Lake Superior; schooner Ontanagon capsized off the Twin rivers; schooner Chicago, Canadian, founded on Lake Michigan. August: Schooner John Ward wrecked on Erie Basin pier at Buffalo; schooner H. N. Gates disabled on Lake Erie; brig Ramsey Crooks capsized near Point Pelee; schooner Big Z sunk in Grand river; schooner Arcadia ashore at Point Pelee; cargo lost, valued at \$2,000. September: Steamer Bunker Hill burned at Tonawanda; schooner T. P. Handy burned at the same place; steamer Empire State loses a tow valued at \$2,400; steamer Geo. Clinton, with two boats in tow, lost near Genesee, Lake Ontario; schooner Monson sunk at Port Hope, Canada; schooner Oneida disabled on Lake Ontario; propeller Ottawa sunk by propeller Reindeer near Kingston, Canada; schooner Kentucky wrecked at Presque Isle; schooner D. D. Bogart total wreck at Erie. October: Schooner Christina capsized on Lake Ontario, 11 lives lost; schooner Osceola wrecked on Lake Erie; schooner Erie sunk by collision near Sandusky; propeller Monticello totally wrecked on Lake Superior; schooner Abby wrecked near Cleveland; schooner Hannah Counter wrecked on the Canada shore; brig Chicago capsized near Long Point; eight lives lost; schooner Wm. Penn capsized on Lake Ontario; three lives lost; schooner E. G. Merrick wrecked at Vermilion; brig Fashion stranded on Lake Michigan; brig Wabash sunk near Chicago; schooner Cambria sunk at Ashtabula; schooner Illinois wrecked on Lake Erie; steamer Queen Victoria abandoned on the rocks at the head



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#### STEAMBOAT ATLANTIC.

Built at Newport, Mich., in 1848. Length 267 feet; 1,155 tons; in her day unsurpassed in elegance and convenience; in 1852 run down off Long Point, by propeller Ogdensburg, and sunk; 150 lives lost.





of Niagara river; schooner Billow, lumber, wrecked on Long Point; schooner Grace Amelia wrecked; schooner Helena wrecked near Kalamazoo; schooner Saratoga sunk by collision with the Buckeye State; loss estimated at \$8,500; four men drowned; steamer Atlas wrecked near Grand river; schooner Prince Albert (Canadian) wrecked on Long Point; propeller Vandalia wrecked by collision with schooner Fashion on Lake Erie; loss \$14,000. November: Propeller Ireland sunk in the St. Lawrence river; schooner Home wrecked near Dunkirk; schooner Texas wrecked at Rondeau; schooner Caledonia wrecked on Lake Erie; scow Flying Dutchman wrecked at Long Point; schooner Luthier Wright sunk at Oswego; schooner Meg Merrilies wrecked at Manistee; steamer St. Lawrence sunk in the St. Lawrence river; steamer Seneca burned at Chicago; schooner W. G. Talcott total loss on Lake Erie; brig S. B. Ruggles lost near Buffalo; loss on cargo and boat \$27,000; schooner Eudosa wrecked at Dunkirk; schooner Sciota sunk by collision with the brig Quebec near Ashtabula; brig Empire wrecked at Oswego; schooner Huron wrecked at Sandy creek; brig L. A. Blossom sunk by steamer Niagara in Detroit river; loss \$10,000; brig Clarion lost two locomotives off deck, valued at \$16,000; schooner California wrecked near Barcelona; schooner Whip ashore near Erie. December: British schooner Rachel sunk in the Welland canal; steamer Sultana sunk at Sandusky; scow Anawan a total loss off Huron; five men drowned.

1852.

*A frightful collision* occurred between 2 and 3 o'clock in the morning, Friday, August 20, between the steamer Atlantic and the propeller Ogdensburg, about six miles above Long Point, Lake Erie, resulting in an estimated loss of life of from 250 to 350, making it one of the most terrible events of lake history. The steamer ran across the bows of the propeller, and was struck forward of her wheel on the larboard side. The weather was slightly hazy, but the stars were visible, and the wind was almost a dead calm. The liberty cap of the

propeller extended over the deck of the steamer, the wood work of the baggage room breaking inward. As the two vessels parted the propeller rounded to and pursued her course, and the Atlantic kept on without losing a stroke of her engine, until her fires were extinguished by the rapidly rising water. Soon after the collision it was attempted to launch one of the small boats of the Atlantic from the starboard side, but the bow was allowed to descend faster than the stern, throwing the weight forward. The bows broke, pitching the men, with which it was crowded, into the lake. Panic prevailed, and many of the passengers and crew jumped overboard without making any preparation. Survivors asserted that there was an entire lack of authority to prevent passengers, especially women, from throwing themselves wildly into the lake. Captain Pettys was injured by a fall into the yawl soon after the collision, and was unable afterwards to render assistance or to take command. The Atlantic continued to float some distance, and when she sank her stern continued to float after the bow had struck bottom, buoyed up by air in the after hold. All who clung to the steamer were saved.

The propeller kept on her course two miles or more, when she rounded to and returned to the steamer. She rescued those who were still upon the wreck, and picked up many who were floating about on wreckage or life-preservers. About 250 were thus rescued by the Ogdensburg and carried into Erie. It was impossible to accurately determine the loss of life. The clerk did not save his trip sheet, but judged there were between 500 and 600 passengers aboard. There were about 150 cabin passengers and some 426 deck passengers, most of whom were emigrants. The early estimates of loss were about 325, but later figures reduced the number to 131.

The Atlantic was built at Newport, Mich., in 1848. She was 267 feet in length, 33 feet beam and measured 1,155 tons. In 1849 she had made the trip from Buffalo to Detroit in 16½ hours, the quickest passage up to that time.

*Loss of the Steamer Caspian.*—Another

serious disaster was the loss of the new steamer *Caspian*, valued at \$90,000, wrecked during a sudden storm while lying at a pier outside of Cleveland harbor. The *Caspian* was owned by Capt. E. B. Ward.

*Loss of the Oneida.*—A terrible storm swept over the lakes November 10 and 11, resulting in the complete or partial loss of 55 vessels. The most disastrous wreck was that of the propeller *Oneida*, which capsized on Lake Erie with the loss of 17 lives.

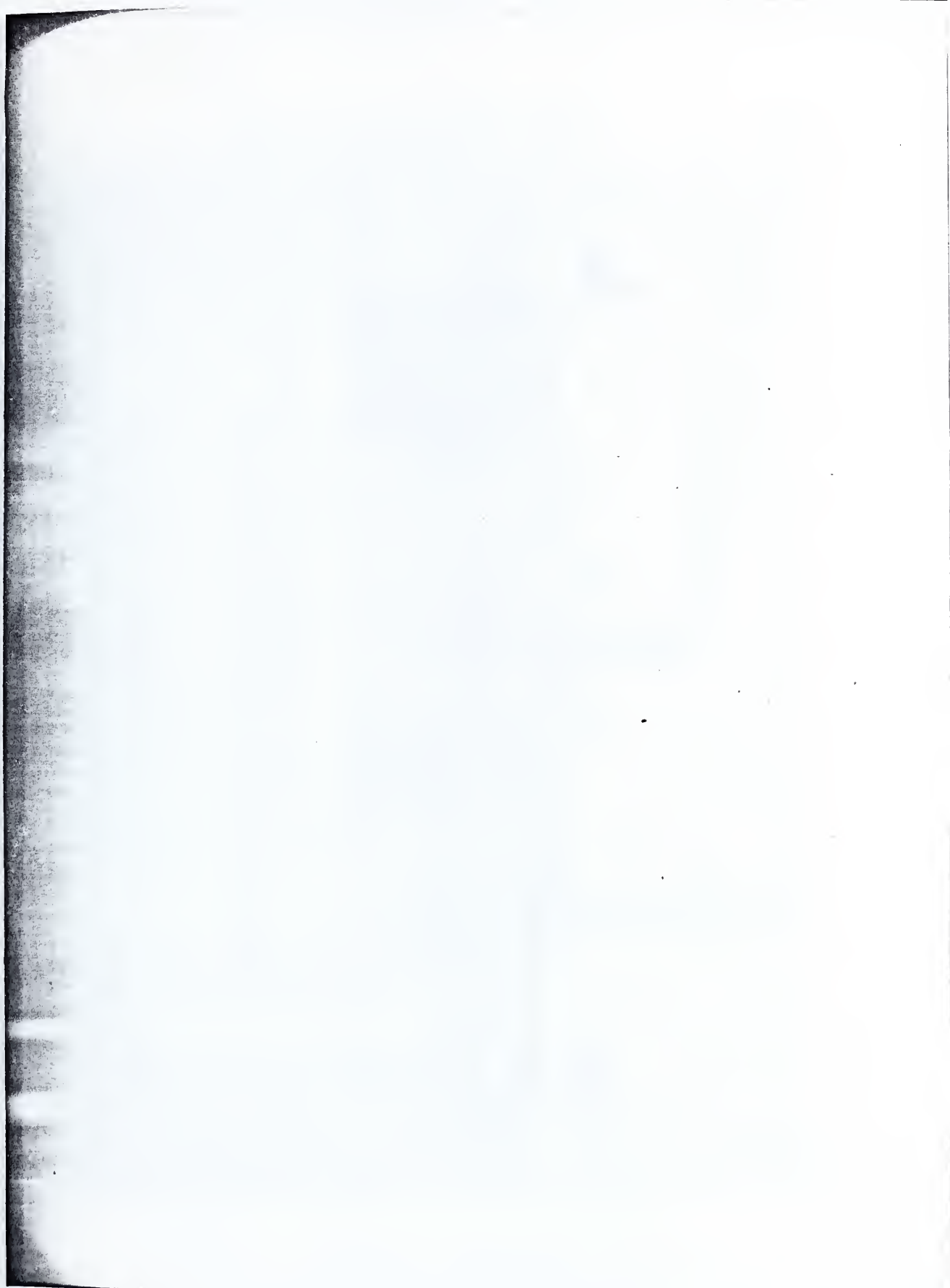
*Other Losses.*—Among the other losses during this storm were the following: Schooners *Lady Bagot*, total loss at Grand river. Schooner *Somerset* ashore at Cattaraugus creek, and released. Schooner *Abigail* ashore near Ashtabula. Schooner *Marengo* on the rocks at Gravelly Point. Schooner *Mobile* wrecked near Toronto. Schooner *Arkansaw* ashore and wrecked near Toronto. Steamer *Michigan* disabled and towed to Cleveland. Schooner *Gold Hunter* wrecked at Sleeping Bear. Steamer *Diamond* damaged to the extent of \$1,000 at Dunkirk. Schooner *New Haven* ashore at the "Cut," C. W. Propeller *Bacchus* beached at the same place. British schooner *Albion* ashore at Toronto. Schooner *G. T. Williams* ashore near the mouth of the Detroit river.

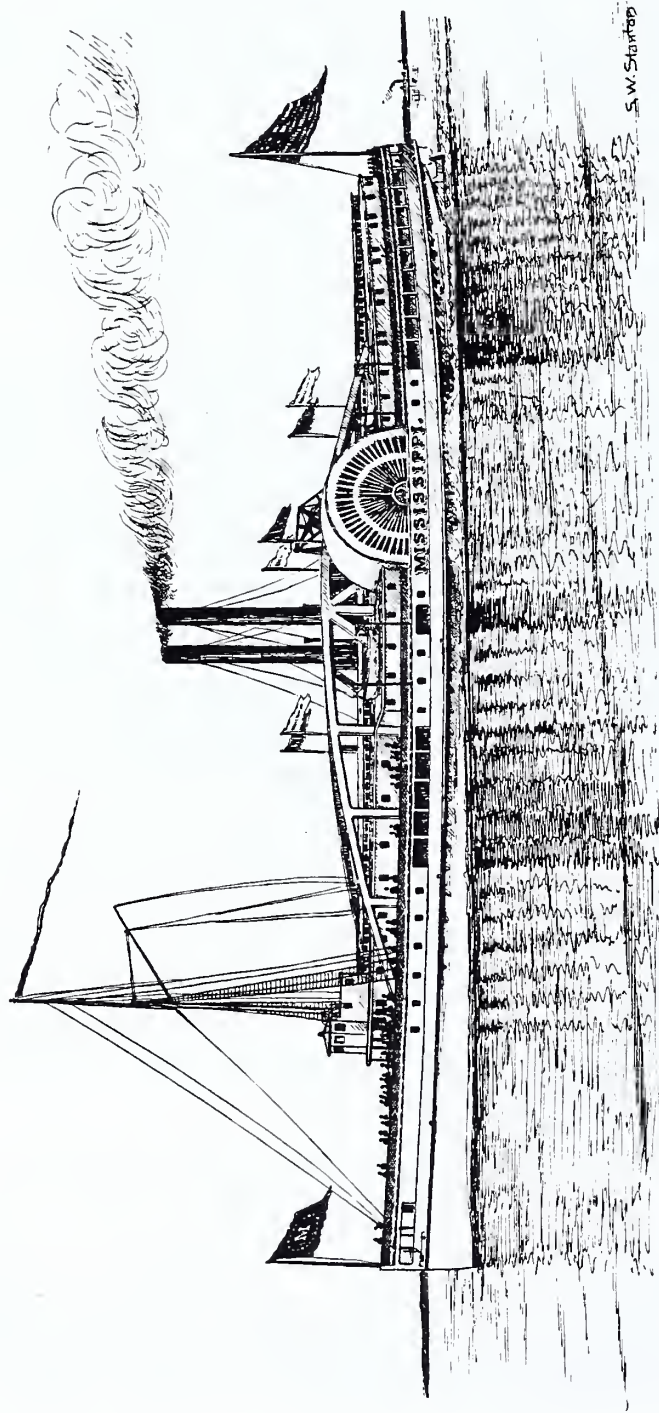
Of the 229 disasters that occurred during the season of 1852, seven occurred in April, 19 in May, 24 in June, 15 in July, 16 in August, 21 in September, 27 in October, 85 in November (55 in the gale of the 11th and 12th), and 15 in December. Five steamers, six propellers and 28 sail vessels went out of existence during the season of 1852. The total valuation of losses for 1852 was \$992,659, and 296 lives were lost.

*Other Events of 1852.*—March 13: Several Lake Erie ports clear of ice. April 22: Lake Erie again frozen over. May: Five propellers, two steamers and many vessels frozen in near Buffalo; 10, steamer *Northerner* collided with the brig *Caroline* in St. Clair river, resulting in serious damage to the latter; 20, schooner *Meridian* sunk by collision with a wreck near Malden. June: Schooner *Vermont* capsized on Lake Erie

off Conneaut. Forest City explodes her boiler, resulting in the loss of three lives. Schooner *Anawan* capsized on Lake Erie off Painesville. Propeller *Montezuma* sustains severe injuries and loses her cargo during a storm. Propeller *Republic* lost much of her cargo during a storm. July: Severe storm on Lake Michigan; brigs *Shakespeare* and *Lowell* damaged. Brig *Helfenstein* sunk at Chicago. August: Steamer *Swan* burned at Toledo; loss estimated at \$18,000; 20, steamer *Atlantic* collides with the propeller *Ogdensburg* near Long Point, by which the former was sunk; many lives lost. October 7: Propeller *Independence* ashore near Ontonagon during a gale. Propeller *Vermont* burned while lying at the dock at Grand River, Canada. November: Steamer *St. Louis* wrecked at Kelly's island; bark *Rochester* sunk at Erie, a total wreck, seven lives lost; schooner *M. Douseman* sunk at Dunkirk; schooner *R. O. Mead* goes to pieces on Lake Erie; bark *Myers*, of Cleveland, lost during a storm; schooner *Eagle* total loss at Sandusky; 17, schooner *Serena* ashore; 15, schooner *Twin Brothers*, of Milwaukee, and schooner *Roberts*, of Chicago, ashore at Muskegon; 23, propeller *Oregon* ashore near Put-in-Bay; steamer *Sam Ward* disabled on Lake Erie and towed to Detroit by the propeller *Buffalo*; schooner *A. Wilcox* wrecked on Lake Michigan, three lives lost; brig *Robert Burns* wrecked near Grand River; schooner *Hamlet* and brig *Pawhattan* ashore; schooner *Star* wrecked on Georgian Bay, six lives lost. At the close of navigation, and during a heavy gale, the propeller *Samson*, one of the first built above the Falls, was wrecked at Buffalo with a cargo of flour, involving a loss on hull and cargo of \$20,000. Other vessels which passed out of existence during the season of 1852, with the loss on hull and cargo, were as follows: Steamer *Belle*, wrecked in Georgian Bay, loss \$15,000; steamer *Telegraph No. 2* burned at the head of Lake Erie, \$6,000; propeller *City of Oswego* sunk by steamer *America* in Lake Erie, \$70,000; propeller *Ireland* burned in St. Lawrence river; propeller *Samson* wrecked near Buffalo; propeller *Oneida* capsized in Lake Erie, 19 lives







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#### STEAMBOAT MISSISSIPPI.

Built at Buffalo, N. Y., in 1853. A floating palace; length 335 feet; tonnage 1,829; one beam engine, 82-inch cylinder, 12-foot stroke; three boilers, each 50 feet long by 11 feet diameter; dismantled in 1863, hull remodeled into a dry dock.

lost; propeller James Wood, wrecked at Ashtabula, loss \$19,000; propeller Vermont, burned at Grand River; barque Rochester wrecked near Erie, seven lives; barque Buckeye State wrecked at Milwaukee, loss \$14,000; brig Annie Winslow wrecked on Duck island, Lake Michigan; brig E. H. Scott wrecked on Lake Michigan, loss \$14,000; brig Breeze wrecked on Lake Ontario; brig John Hancock wrecked at Rondeau; Marion wrecked at Buffalo, four lives. The following named vessels were all schooners: Schooner Clyde wrecked at Toronto, \$4,000; Oregon, foundered in Lake Erie, 10 lives lost, \$16,000; Buffalo wrecked on Long Point, six lives lost; Tom Benton wrecked near Chicago; Mariner wrecked near same place; Lavinia wrecked near Kenosha, Lake Michigan; Emily wrecked at Grand River, C. W.; A. H. Newbold wrecked on Buffalo pier; Eagle wrecked near Grand River; Severn wrecked near Grand River; Gold Hunter wrecked on Sleeping Bear island, Lake Michigan; H. B. Bishop wrecked in Georgian Bay. Lowland Lass sunk by steamer Superior, in Lake Erie; Green Bay wrecked at Michigan City; R. C. Smead wrecked at Barcelona, Lake Erie; George Watson sunk by propeller Ohio, in Lake Michigan; A. Wilcox wrecked on Lake Michigan, three lives lost; Brewster wrecked at Fairport, seven lives lost; Star wrecked in Georgian Bay, six lives lost; Elizabeth burned at Oakville, Lake Ontario; Gazette sunk off Cleveland, crew saved.

1853.

*Ground Broken for the Sault Ship Canal.*—In this year ground was broken for this canal, which was not opened until two years later, and which was destined to exert a tremendous influence in future years upon lake traffic.

*Loss of the Ocean Wave.*—One of the most distressing accidents that ever occurred on Lake Ontario happened April 30, near the Ducks, small islands near the Canadian shore, about 40 miles above Kingston. The upper cabin steamer Ocean Wave, built in Montreal in 1851, took fire about one o'clock in the morning, while on

her way from Hamilton to Ogdensburg. The boat was newly painted, the flames spread rapidly and the boats could not be got out. Within five minutes the vessel was enveloped in flames. The light attracted the schooners Georgiana and Emblem which, with some fishing boats, saved 21 persons out of a total of 44 who were aboard. Of the lost, 15 were members of the crew and 13 were passengers.

*Independence Wrecked by Explosion.*—One of the most deplorable disasters during the navigation of 1853 was the explosion of the boilers of the propeller Independence, Captain John McKay, at or near Sault Ste Marie, on the morning of November 22. She left the dock at the head of the portage about midnight with a heavy freight of winter supplies for Ontonagon and La Pointe, and a number of passengers. She had not proceeded over a mile before her boiler burst, literally tearing three-fourths of the boat to atoms, killing four persons—the first engineer, one passenger and two firemen—and badly injuring the second engineer and several passengers. The boat, with the exception of 25 feet of her bow, was blown to atoms. Her engine and boiler, with the exception of a small piece of the latter, was beyond discovery in a search that was made within 100 feet of the wreck, and a large portion of her 2,700-barrel bulk cargo was scattered in every direction, altogether making the escape of 30 lives miraculous.

*Tests of Speed.*—During the season of 1853 quite an exciting race took place with the steamers Queen of the West, Captain McBride, and the Mississippi, Captain Hazard, between Buffalo and Cleveland. The latter turned the light at Buffalo at 9:20 A. M. and the former at 10:20 A. M., the Mississippi being one hour and fifteen minutes ahead. Both steamers arrived at Cleveland at 9:10 P. M., the Queen of the West being about half a length ahead, having run from Fairport to Cleveland (30 miles) in one hour and ten minutes.

The steamers Empire State and Atlantic had a trial of speed on Lake Erie, the former proving the victor. The steamer Ocean had a tilt with the Empire State



also, both claiming the superiority. A trial of speed also took place between the steamers Queen City and Alabama, from Buffalo to Cleveland, the former performing the distance in 12 hours and 10 minutes, and coming in the victor. The distance between the two ports is 151 nautical miles, or 173 statute miles. Placing the Queen City's time at 12 hours gave her a speed of 14 5-12 miles per hour.

*Disasters of 1853.*—Of 266 disasters during the season of 1853, 19 occurred in April, 30 in May, 17 in June, 11 in July, 28 in August, 30 in September, 39 in October, 80 in November and 12 in December. Sixty steamers, two propellers and thirty sail vessels passed out of existence. The number of disasters exceeded those of 1852 by 37, while the loss of property was less by \$118,516. The great decrease in the loss of life and property by collision and explosion, as shown by comparison, was the result of the first year's operation of the new law relating to vessels propelled by steam, and their improved system of lights. With the one exception, the Ocean Wave on Lake Ontario, no lives were lost on any of the regular passenger steamers by any accident whatever.

*Other Events of 1853.*—In this year navigation was resumed at Buffalo April 2, the steamer Mayflower being the first to arrive. The Straits of Mackinac were clear April 17, the propeller Forest City being the first to pass through going west. The steamers Wisconsin, Southerner and Albany, which had been plying many years, passed out of existence this year, fortunately without the loss of any lives. Their places were filled by several new boats of much larger tonnage, including the Mississippi, 1,829 tons; Crescent City, 1,740 tons; Queen of the West, 1,852 tons; Northern Indiana, 1,470 tons; and others of larger tonnage. The steamer Albany, owned by Mr. McKnight and commanded by Capt. H. J. Jones, was wrecked near Presque Isle, Lake Huron, and proved a total loss. Over 200 passengers were on board, and safely landed the day following the disaster. The schooner Sault, owned by J. R. Huguinn, of Chicago, and laden with coal and iron,

was sunk by running into the schooner Trade Wind, in St. Clair river, and was never recovered. On the morning of October 8 the steamer Ben Franklin, Capt. H. J. Jones, while *en route* to the Sault, went ashore at Thunder Bay island, Lake Huron, and became a total wreck. She was built at Algonac, Mich., in 1842, and was 231 tons burden. During the same month the steamer A. D. Patchin, commanded by Capt. H. Whitaker, and partly owned by him, struck on Skillagalee and became a total loss. The Patchin was built at Truago, Mich., in 1849, was of 870 tons burden, and one of the stanchest built boats on the lakes. She was propelled by the engine formerly in the steamer Missouri. The steamer Commerce (Canadian) came in collision with the steamer Dispatch, off Grand River, Canada, sinking the former, and 38 persons were drowned. The brig Crispin stranded on Point aux Barques, and became a total loss. Fifty feet of the table rock at Niagara Falls became dislodged and plunged into the abyss below. During the latter part of the season the steamer Canada was transferred, and taken to Lake Michigan to ply between Chicago and New Buffalo. The wreck of the steamer Nile was burned at Milwaukee. She was driven ashore in a gale at that port in the fall previous. May: Steamer Superior and schooner Signal collide near Buffalo. Steamer London sunk near Sault Ste. Marie. On May 5, the Cherokee, an iron vessel, commanded by Captain Gaskin, left Toronto direct for Liverpool, arriving there June 16. Schooner Citizen ashore above Waukegan. Schooner John Grant ashore at New Buffalo. May 25: Schooner Texas ashore near the mouth of the St. Clair river. Schooner Mary Margaret capsized near Grand river; four lives lost. June: Steamer Admiral burned at Toronto. Brig Iroquois damaged by collision with the steamer Reindeer, near the Kingston lighthouse. July: Steamer Queen of the West burned at Hamilton, Ontario. August: Steamer Wisconsin sunk by collision with the propeller Brunswick near the West Sister lighthouse. September: Schooner Herald capsized near Chicago. Steamer Fashion damaged by lightning near Racine.

Propeller Nile ashore near Chicago, sustaining several injuries. October: Steamer Queen City sunk in the harbor at Erie; 25, schooner Whip ashore at Cleveland. Schooner G. H. Walker wrecked on Lake Erie, near Madison; total loss; 26, schooner Rocky Mountain ashore near the mouth of the Kalamazoo river. November: Schooner Susanna burned at Port Dover.

1854.

*The steamer E. K. Collins burned in the Detroit river, a short distance below Malden, on the night of October 8.* Ten passengers and thirteen of the crew perished in the flames or were drowned in the river. The E. K. Collins was a new steamer, owned by the Wards, of Detroit, and had come out the previous autumn at Newport, now Marine City. She was bound from the Sault for Cleveland. The fire originated on the boiler deck, and was supposed to have been caused by the steerage passengers emptying their pipes, filled with burning tobacco, into the light woodwork of the deck. It spread with great rapidity. The fire engines were in readiness, the hose was quickly screwed on, but the smoke and fire drove every person from the engines. Within two minutes, it was stated, the whole boat was aflame. An attempt was made to launch the lifeboats, but the flames forbade. There was an abundance of life preservers and floats, but in their fright many persons jumped into the river without any support. The vessel was turned toward the shore, and her headway beached her. There she burned to the water's edge. The propeller Fintry, Captain Langley, arrived at a timely moment and saved a number who were struggling in the water. The Collins had 24 passengers aboard, and her crew numbered 43. She cost \$103,000.

There were 384 disasters during the navigation of 1854, with a valuation of property lost amounting to \$2,187,825.

*Gradual Change in Lake Craft.*—There were in 1854 few side-wheel steamers on the lakes in comparison with former times, while the class of vessels known as barks and brigs, had almost entirely passed out,

and were known only in history. Propellers in the meantime had largely increased, and were doing the great bulk of freighting business on the lakes, being better adapted for that service.

*Chicago Harbor Dredged.*—The Chicago harbor was dredged during the season to 12 feet, deep enough for the safe passage of any sail vessel not more than 800 tons, and any steamer not over 1,500 tons, which placed it in better condition than for the past ten years. At this time Chicago had no lifeboat, but was obliged to depend, in time of storm, when vessels were grounded on the bar and the lives of the crews in peril, upon such boats as steamers or propellers then in the harbor might be able to send out.

*Other Events of 1854.*—Navigation commenced at Buffalo April 2, the steamer Buckeye State, Capt. Jacob Imson, being the first to depart, and the straits of Mackinac opened April 25, the brig Globe being the first to pass through, bound west. April 18: Propeller Forest Queen ashore near Thunder Bay; schooner Samuel Strong damaged by lightning on Lake Michigan; 29, propeller Paugassett ashore near Grand River. May 1: The following boats wrecked on Lake Michigan: Olive Richmond, Rocky Mountain, Merchant, Arrow, P. Hayden, Lizzie Throop and Maine. May: Schooner Tom Corwin sunk by collision with the piers at Cleveland; brig Globe damaged by lightning at Chicago; contract for making the "straight cut" at Milwaukee let for \$48,000; schooner Buttles sunk in Detroit river; steamer Garden City wrecked on a reef near Mackinac; propeller H. A. Kent burned on Lake Erie; cargo valued at \$200,000; steamer Detroit sunk in Saginaw bay by collision with the brig Nucleus. June: Scow Juno sunk at Cleveland. Schooner Australia damaged by lightning near Turtle island. July 29: Schooner Lapwing goes ashore near St. Joseph; propeller Boston sunk by collision off Oak Orchard. August: Steamer Alabama sunk near Buffalo. Steamer Lady Elgin sunk at the pier at Manitowoc. September: Schooner Navigator sunk at Michigan Harbor; schooner E. C. Williams sunk by collision with the



Western World at Buffalo; 19, schooner Isabella ashore near Dunkirk; 28, schooner A. Buckingham ashore at Long Point; 23, steamer Lady Elgin and the Baltic ashore at the Flats; steamer Saratoga sold as she lay sunk in the harbor at Port Burwell, Canada, to William H. Scott for \$4,000. October 1: Propeller Westmoreland ashore at Windmill Point; propeller Troy damaged by explosion of her boiler near Chicago; steamer Fashion sunk at Kewaunee; 8, steamer E. K. Collins burned at Malden, owned by Capt. E. B. Ward; 10, bark France ashore near Goderich; bark Fame wrecked on Lake Huron; schooner W. W. Brigham sunk in Dunkirk harbor; schooner Ocean burned at Port Dalhousie; schooner Alwilda burned; 22, schooner Virginia Purdy ashore at Milwaukee; schooner Waterwitch ashore at Kincardine; schooner Defiance sunk by collision with brig Audubon near Point aux Barques. November: Schooner Mary Margaret capsized off Milwaukee; crew rescued by the schooner Magic. Propeller Bucephalus sunk in Saginaw bay; ten lives lost. Schooner Little Belle ashore at Grand River, Canada. British bark Globe ashore at Port Burwell. Schooners Wm. Black and Forwarder ashore at Port Burwell. Schooner Josephine Lawrence sunk in Detroit river. Propeller Saginaw on the rocks at Gibraltar. The O. Q. Melzar ashore near Shushwaw point. Propeller Edith collides with the schooner Charley Hibbard off Long point. Brig Northampton ashore and total loss at Thunder Bay. Schooners Lizzie Throop, Twin Brothers, Ino and Ellen Stewart ashore near Grand River. Bark Utica sunk at Buffalo. Steamer May Queen collides with the Wm. Buckley on Lake Erie, resulting in sinking the latter. Steamer Mayflower wrecked on a reef near Point Pelee; loss \$40,000. December: Over 50 vessels aground at the St. Clair flats. Schooner Omah, laden with salt, wrecked at Cleveland; three lives lost. Bark Wm. Sturgess ashore at Black River. Propeller Paugassett sunk at Cleveland from injuries sustained while rescuing the crew of the Omah. Schooner Virginia ashore near the Omah. Steamer Fremont frozen in at Sandusky bay. Schooner Ireland, aground

near Windmill point, goes to pieces. Schooner Florence wrecked near Kelley's island. Schooner Franklin Pierce wrecked near Duck Pond. Steamer Albion frozen in at the mouth of Clinton river. Schooner Suffolk ashore near Port Burwell. Propeller Westmoreland sunk near Sleeping Bear, Lake Michigan; 17 lives lost. Schooner Western Star wrecked near Goderich, Ontario.

*Other Disasters of the Season.*—The following steamers and sail vessels passed out of existence in 1854: Steamer America wrecked at Point Pelee, Lake Erie; steamer Garden City wrecked near Detour, Lake Erie; steamer Detroit sunk by bark Nucleus in Saginaw bay; steamer General Harrison wrecked near Chicago.

The schooner K. R. Johnson, laden with wheat, foundered with all hands off Fairport. Captain Snell, who commanded her, was seen in the rigging by his wife on shore, waving his coat, but finally fell off in sight of home and friends, and was drowned. The vessel was owned by Solomon Snell, brother of the captain; the schooner Ontario, with 200 tons of merchandise, was wrecked on Nicholas island, Lake Ontario; steamer Alabama sprung a leak and sunk near Buffalo; steamer E. H. Collins burned at the mouth of Detroit river with loss of 23 lives; steamer Bruce Mines foundered in Lake Huron; steamer Mayflower wrecked on Point Pelee; propeller Princeton sunk by ice off Gravelly Bay, Lake Erie; propeller H. A. Kent burned off Gravelly Bay, Lake Erie; propeller Boston sunk by collision in Lake Ontario; propeller Bucephalus foundered in Saginaw bay, ten lives lost; propeller International burned at the head of the Niagara river; propeller Westmoreland foundered near the Manitous, seventeen lives lost; bark Utica wrecked on Buffalo breakwater; bark Trade Wind sunk by brig Sir C. Napier in Lake Erie; bark Globe (C) wrecked at Port Bruce, Lake Erie; brig O. Richmond wrecked near Chicago; brig Wm. Monteith wrecked at Fairport; brig Audubon sunk by schooner Defiance in Lake Huron; brig Ashland wrecked on Long Point, Lake Erie; brig Burlington wrecked at Port Bruce, Lake Erie; brig Odd Fellow wrecked near Mackinaw; brig Halifax



wrecked on Lake Ontario; Adelia foundered in Lake Ontario with loss of five lives. The following named were all schooners: Robert Wood lost off Dunkirk, Lake Erie; Petrel lost on Lake Michigan, with four lives; Duke sunk in Lake Ontario and four lives lost; Hudson sunk off Conneaut, Lake Erie; Navigator wrecked near St. Joseph, Lake Michigan; Roanoke wrecked near Muskegon, Lake Michigan and four lives lost; Nautilus wrecked near Chicago; Sophia wrecked in Georgian Bay; Energy wrecked in Traverse bay; J. B. Wright wrecked on east shore of Lake Michigan; Ocean burned at Port Dalhousie, Lake Ontario; Defiance sunk by brig Audubon in Lake Huron; Cayuga wrecked on Lake Ontario; Western Star wrecked near Goderich, Ont.; Luther Wright wrecked at Gravelly Bay; Norfolk wrecked on Lake Ontario with two lives; Ocean wrecked at Cleveland, four lives lost; Birmingham wrecked near Buffalo; R. R. Johnson wrecked at Fairport, eight lives lost; Conductor wrecked at Long Point; Lewis Cass wrecked at Conneaut; Wing and Wing wrecked at Michigan City; Convoy foundered in Lake Erie and eight lives lost; Florence wrecked at Kelley's island; Mansfield wrecked at Euclid, Lake Erie; Mary Margaret wrecked on Lake Michigan.

Of the 384 disasters in 1854 one occurred in January, 46 in April, 25 in May, 11 in June, 14 in July, 21 in August, 58 in September, 61 in October, 83 in November and 64 in December. Eight steamers, six propellers, three barks, eight brigs and 30 schooners passed out of existence during the season. Owing to the sudden closing up of the season a number of vessels, with cargoes on board, were frozen up outside, sustaining more or less damages, which could not at that time be included in the above amount. The season closed December 10; number of lives lost during the year, 119; amount of loss by jettison, \$78,550; loss by collision, \$270,000; loss by fire, \$264,400; total loss of property by steamboats, \$1,143,500; loss by sail vessels, \$1,046,325.

1855.

*Sault Canal Completed.*—The Sault canal was completed this year, opening up com-

munication with the Lake Superior region. The steamer Illinois, 927 tons, Capt. Jack Wilson, was the first boat to pass through the canal, the passage occurring June 18, 1855. She was followed by the steamer Baltimore, Capt. John Shook, the Sam Ward, Captain Eastabrook, and the North Star, Capt. B. G. Sweet, respectively, the same month. The Baltimore continued plying there, changing eventually between Chicago and Lake Superior, until the fall of the same year, when she was wrecked at Sheboygan, on Lake Michigan, freighted with supplies.

*The Improvement of St. Clair Flats.*—A convention was held early in the season of 1855, at Buffalo, by commercial men and vessel owners, to take measures for the improvement of St. Clair flats, which was attended from all the principal United States lake ports, also from Canada. The plan proposed was to dredge a channel 900 yards long and 100 yards wide, at a probable cost of \$36,000; driving 1,000 piles, costing \$2,000, making a total outlay of \$38,000. This improvement was to be carried out in the south channel, which was the main line of St. Clair river, the boundary line between Canada and Michigan, and about nine miles shorter than the northern route. Nothing was accomplished, however, until the improvement was undertaken by the United States Government.

*Wreck of the Oregon.*—The most lamentable accident of the season occurred at or near Belle Isle, opposite the upper end of Detroit. The propeller Oregon left Detroit early in April for the St. Clair river, carrying in addition to her own crew the crews of the brig U. M. Standart and schooner Flying Cloud, which vessels wintered above.

When near the head of Belle Isle, and close to the Canada shore, her boiler exploded, scattering death and destruction all around. The after part of the propeller was blown completely off, and sank almost immediately. Nine men were killed instantly, and several others were badly wounded. Those who were saved clung to the bow of the boat, and were taken off by small boats. The Oregon was in command

of Capt. John Stewart, who at the time of the explosion, was leaning against the pilot house. He was thrown high in the air, and as he came down fell through the deck, breaking one of his legs. The captain of the brig U. M. Standart was also leaning against the pilot house at the time, and was thrown some distance, but escaped with a sprained ankle. In all there was a loss of ten lives. The propeller was owned by G. W. Jones, and was valued at \$8,000, with no insurance on her, and being in such a shattered condition nothing of value was saved. The engine was blown completely out of the boat. The Oregon was built at Cleveland in 1846, and was 346 tons burden.

*Wrecks at Chicago.*—The season for navigation for 1855 was disastrous, the storms raging with unusual fierceness during September and November. Among the casualties of concern at Chicago were the wrecking of the brig Tuscarora and the explosion of the steam tug Seneca. The Tuscarora went to pieces in the storm of September 18, just outside the harbor, but all the crew were saved. The Seneca blew up while passing Randolph street bridge, October 16, 1855. The explosion tore the upper works of the boat to pieces, and killed the captain and engineer. The Seneca was an old boat, having been in use since 1847. During October the schooner Mark H. Sibley and the bark Pathfinder were sunk in the outer harbor.

*Shipbuilding Active.*—Shipbuilders were by no means idle at this period of lake commerce, there being no less than 170 craft of all classes, launched at various lake ports, stimulated by good freights, which prevailed throughout the season.

*The Queen Charlotte burned at Toronto.*—On January 22, the steamer Queen Charlotte, formerly the Lady of the Lake, was discovered to be on fire at the Queen's wharf in Toronto. She was taken out into the bay by two other steamers, in order to save other shipping, and in an hour and a half not a particle of her wood work was to be seen.

*Hull of the Erie Raised.*—The emigrants aboard the ill-fated steamer Erie,

burned in 1841, had a large amount of specie with them, and this fact led to attempts to raise the hull, which was eventually done about 1855. The hull was towed into Buffalo harbor, and large amounts of specie, mostly in form of five-franc pieces, were recovered, paying the operators well for their enterprise.

*Other Events of 1855.*—April 18: In a great storm on Lake Ontario, the schooner Defiance was lost with all on board, eleven lives; steamer Emerald sunk at the Flats by collision with an anchor. May: Propeller Buckeye State collides with the Belle Sheridan near Long Point; schooner Visitor sunk near West Sister island; Canadian steamer Huron sunk near Oswego; schooner Hurricane and brig Tuscarora, collide on Lake Huron. June: Schooner J. W. Blake capsized near Sturgeon Point; schooners C. P. Williams, Australia, and Orient ashore on the west side of Lake Michigan; schooner E. M. Lyon sunk by collision with the propeller Delaware on Lake Erie; propeller Cataract sunk near the Foxes, on Lake Michigan. July: Schooner Palmetto ashore at White Fish Bay; schooner Dawn sunk off Madison Dock, Lake Erie; afterwards raised and towed to Buffalo; schooner Lewis C. Irwin capsized on Lake Michigan; schooner Clifton struck by lightning near Monroe; schooner Octavia ashore at the mouth of Grand river, Canada; steamer Ottawa sunk near Brookville by collision with the steamer Tibbett; scow Oak capsized off Avon Point; schooner Home ashore at Grand Haven. August: Schooner Agnes Barton sunk on Lake Erie; schooner Mary Williams capsized near Buffalo; brig Paragon and schooner Robinson collide at Chicago; steamer Baltimore aground on the rocks in the Nevish channel; schooner Pacific sunk near the mouth of Chippewa creek; scow Elmina sunk at Erie; bark L. M. Hubly capsized on Lake Michigan; ten lives lost. September: Schooner Augustus Handy damaged by lightning near Port Huron; steamer Sebastopol lost on Lake Michigan during a storm and seven lives lost; schooner Young America sunk by collision with the schooner Black Hawk, near Racine. October: Schooner Ivanhoe wrecked on Lake Erie.



by collision; propeller Allegheny ashore near Milwaukee, during a gale; brig Racine capsized and lost near Milwaukee; crew rescued by the brig Hutchinson; schooner Antares severely damaged during a storm off Cleveland; steamer Minnesota sustains injuries from collision with the piers at Cleveland; scow Leo capsized on Lake Erie; propeller Charter Oak lost near Erie; ten lives lost; schooner Jacob Stranoch capsized at Milwaukee; schooner H. Wheaton sunk at Long Point; schooner Sam Strong ashore at Pere Marquette; Schooner Kitty Grant capsized on Lake Michigan; four lives lost; schooner Steinhart capsized on Lake Michigan; the Liverpool totally wrecked at Grand Haven; at the same place the schooners Falcon, William Tell, Francis, Lady Jane, and Two Charlies are ashore; brig Sebastopol and schooners Spencer and North Cape are ashore, and the Speed sunk at Muskegon. November: Brig Hessian ashore at Mackinaw; schooner Pride sunk at Sandusky; schooner Emblem sunk at Long Point; propeller Delaware completely wrecked near Sheboygan; the Omar Pacha, Rocky Mountain and Queen of the Lakes ashore near the same place; schooner Mary Jane sunk at Toronto; schooner Pearl totally wrecked at East Sister reef; schooner Conquest ashore near Rondeau; schooner Herald sunk in Oswego harbor; schooner J. M. Hughes ashore at Point Water; schooner Traveler sunk at Port Burwell; schooner Crescent City ashore at North Fox; schooner Arkansas ashore at Sheboygan; schooner Mary Watson ashore at Gravelly Bay; schooner Hope ashore at Beaver island.

*Other Vessels Passed Out of Existence in 1855.*—The following craft also passed out of existence during the season of 1855: Steamer Baltimore wrecked at Sheboygan; steamer Queen City burned at Toronto dock; steamer Porcupine burned at Prescott, Lake Ontario; steamer Sebastopol lost at Milwaukee, seven lives lost; propeller Oregon exploded above Detroit, ten lives lost; propeller Rossiter wrecked on Lake Michigan; propeller Charter Oak foundered in Lake Erie, ten lives lost; propeller Delaware wrecked at Sheboygan, 11 lives lost; propeller Fintry exploded and

sunk in Lake Erie, and eight lives lost; bark L. M. Hulby lost on Lake Michigan, eleven lives lost; bark North Star wrecked on Long Point; bark Pathfinder lost near Chicago; bark Black Maria wrecked near Chicago; bark Halliwell wrecked at Long Point cut; brig Josephine wrecked at Port Burwell; brig Allegheny sunk by brig Young America in Lake Erie; brig Tuscarora wrecked at Chicago; brig Baltic, wrecked at Port Stanley; brig Julia Dean wrecked on Skillagalee; brig H. Wheaton wrecked at Long Point cut; brig John Irwin wrecked at Two Rivers, Lake Michigan; brig Virginia lost off Long Point, Lake Erie. The following named were all schooners: Sylph lost near Oswego; Saratoga lost near Chicago; Defiance foundered in Lake Ontario, ten lives lost; Visitor sunk near West Sister, one life lost; Cygnet sunk by steamer Western World on Lake Erie, and one life lost; E. M. Lyons sunk by propeller Delaware in Lake Erie; Mansfield sunk by schooner Telegraph in Lake Michigan; Napoleon sunk off Erie; Julia burned; Asia sunk by propeller Forest City in Lake Michigan; Sparrow wrecked near Buffalo; Britain lost on Long Point; Ivanhoe sunk by schooner Arab in Lake Erie; Wiman lost at Point aux Barques; G. W. Weeks lost at Pere Marquette, Lake Michigan; H. David sunk in Lake Ontario; St. Clair sunk off Point aux Barques; Dean Richmond wrecked near Racine; Sam Strong wrecked at Pere Marquette; Liverpool lost at Grand Haven; Koefer wrecked at Erie; Reindeer lost near Chicago; Belle sunk off Sodus, Lake Ontario; Pearl wrecked on East Sister; Lodi lost at Grand Haven; Hope lost at Beaver island; James Hughes wrecked near Muskegon; Crescent wrecked on North Fox island; DeWitt Clinton lost near Kalamazoo; J. B. Skinner lost on east shore of Lake Michigan; Vermont lost at Grand Haven; Rockwell wrecked near Muskegon; Steinhart foundered in Lake Michigan; Knickerbocker lost on Lake Michigan, and one life lost.

Total loss of property during the season of 1855, \$2,797,830. Number of lives lost, 118. Steamers 4, propellers 6, barks 5,



brigs 8, schooners 31. The machinery and other parts of the steamer Mayflower, which was wrecked at Point Pelee in the fall of 1854, were recovered by the steamer Huron during the season of 1855, which came near being also wrecked while engaged in the undertaking.

1856.

*Voyage of the Dean Richmond.*—The season of 1856 witnessed the first departure of a sail vessel from the upper lakes for an ocean voyage to Liverpool. The pioneer was the schooner Dean Richmond, with a cargo of wheat taken on at Milwaukee in July, and commanded by Capt. D. C. Pierce. She had a prosperous voyage over, demonstrating that lake vessels were adapted for sea voyages. Other vessels had superseded the Richmond in making sea voyages from Lake Ontario, the first of these being the brigantine Pacific, from Toronto, in 1844, with a cargo of wheat and flour for Liverpool, commanded by Capt. George Todd. From that period up to the time of the Richmond's departure, in 1856, there were nine departures for salt-water voyages, all bound for Liverpool, save the revenue cutter Dallas to New York, in 1847, and the bark Eureka from Cleveland bound for San Francisco, in 1849. The others sailing during this interval for Liverpool were the schooner Lillie, Captain Hunter, from Kingston, in 1848; the schooner Sophia, Captain Gaskin, from Kingston, in 1850; schooner Cherokee, 400 tons, Captain Gaskin, from Toronto, in 1853; bark Arabia, 450 tons, Capt. John Calder, from Kingston, in 1854; schooner Cataraqui, 550 tons, Capt. Robert Gaskin, from Kingston, in 1854; schooner Eliza Mary, 850 tons, Capt. R. Gaskin, from Kingston, in 1854; bark Reindeer, from Toronto, in 1855. The propeller Ontario went to California from Buffalo in 1850.

*Lake Superior Line.*—The line of steamers which were put upon the route to Lake Superior in 1856 through the Sault canal, then in the second year of its opening, were as follows: Steamer Illinois, 926 tons, Capt. John Wilson; steamer North Star, 1,106 tons, Capt. B. G. Sweet; steamer Planet, 1,154 tons, Capt. Joseph Nicholson; pro-

peller Manhattan, 320 tons, Capt. John Spaulding; propeller Mineral Rock, 560 tons, Capt. John Frazer; propeller General Taylor, 462 tons, Capt. Redmond S. Ryder; propeller B. L. Webb, 862 tons, Capt. C. K. Dixon. The Webb had been rebuilt, and did not come out until late in the fall, and on her first trip was burned in Waika bay, with the loss of one life, and the boat a total loss.

*Burned Under Full Steam.*—The passenger steamer Northern Indiana burned to the water's edge Thursday morning, July 17, off Point Pelee, Lake Erie, while on her passage from Buffalo to Toledo. The passengers and crew numbered about 150, and of these 15 were lost. The water was smooth, and only a light wind was blowing. Captain Pheatt had been detained by sickness at Buffalo, and the first mate, named Wetmore, was in command. The officers were taking tickets when the alarm of fire was given. The steamer Mississippi was about five miles astern, the propeller Republic at a greater distance, and a schooner near by. The mate rang the bell to stop the engine, but the engine room was apparently deserted, for no attention was paid to the signal, and the machinery remained in motion, carrying the burning boat rapidly away from the schooner, and driving the flames aft. Life preservers, consisting of pieces of plank, with two ropes attached to each, were hastily taken from the hurricane deck till the flames drove back the men. The forward deck was then cut to pieces with axes and the fragments thrown overboard, and about one-half the passengers at intervals jumped into the water and clung to the floats. When the engines of the Northern Indiana finally stopped, the Mississippi and the Republic came up and rescued the survivors.

*Lost With Nearly Fifty Souls.*—The propeller Toledo went down at night during a storm, October 22, about a half mile off Port Washington. She had come to anchor, and the captain was trying to get up her anchors and beach her as a last resort, but the chains got foul, the seams opened and the propeller soon settled to the bottom. Three deck hands were saved; the remainder of the crew and the passengers.

between 40 and 50 souls in all, were lost. The Toledo was a first-class propeller of the American Transportation line, and was in command of Captain Densham. She was bound up with a full cargo of merchandise for Milwaukee.

*Many Lives Lost on Lake Superior.*—The steamer Superior was lost near Grand Island, Lake Superior, October 29, 1856, during a violent storm. Her rudder was carried away and the boat fell into the trough of the sea. She commenced making, the fires were put out and she struck the rocks, soon after going to pieces. Thirty-five lives, including 11 passengers, were lost, and 16, including five passengers, were saved. Capt. Hiram J. Jones was among the lost. The Superior was considered one of the best sea boats in the trade, and had lived through many a storm. She left Chicago October 25, loaded principally with supplies for miners.

*Other Disasters of 1856.*—The propeller J. W. Brook foundered in Lake Ontario in a heavy gale, and all on board lost, 22 lives. The loss on cargo and hull in this instance was \$90,000. The bark J. V. Ayer, laden with wheat, foundered in Lake Michigan, and ten lives found watery graves. She was commanded by Capt. Thos. McClelland. The schooner Mary Maria was wrecked on Presque Isle, Lake Ontario, and seven lives lost. The schooner Iowa foundered in Lake Michigan with nine lives lost; loss on hull and cargo \$33,000. Steamer Niagara burned off Port Washington, Lake Michigan, and 60 lives lost; \$70,000. Propeller Tinto burned on Lake Ontario, and 18 lives lost, \$31,000. Steamer Northerner sunk by steamer Forest Queen in Lake Huron with 12 lives; \$23,000.

*Other Events of 1856.*—In this year one boat was running direct through from Montreal to Chicago, a freight steamer, owned by Jones & Co., and stopping at many intermediate points. The number of craft owned by Canadians in 1856 was 47 steamers, 17 propellers, and 171 schooners, aggregating a total of 42,000 tons and a valuation of \$3,500,000. On Lake Ontario during the season of 1856 there were six steamers plying on the American side con-

trolled by the Ontario & St. Lawrence Steamboat Co., of which E. B. Allen, of Ogdensburg, was president, and Capt. James Van Cleve, secretary and treasurer at Lewiston. The steamers made daily trips, calling on the downward passage at Charlotte, Oswego, Sacket's Harbor, Kingston, thence to Ogdensburg, and returning by the way of Cape Vincent, Toronto, thence to Lewiston. On May 9, the boiler of the propeller Inkerman exploded as that vessel was backing away from Upton & Browne's wharf, Toronto, her entire crew being either instantly killed or badly wounded. The only passenger on board, Miss Eliza McGill, was dreadfully injured. The boat was a complete wreck, and most of the cargo was lost. March 26: Navigation opened on Lake Michigan by the steamer Huron, which left Chicago for Milwaukee. April 11: Schooner Sea Witch leaves Cleveland for Huron, the first clearance of the season at that port; 18, schooner Pride capsized near Venice. Steamer Northerner sunk in Lake Huron by collision with the steamer Forest Queen, twelve lives lost. June: Schooner Fulton collides with the schooner Lookout off Bar Point. July: Brig Cuyahoga capsized off Point Pelee; five lives lost. October: Schooner Kenosha wrecked at Chicago. Schooner Dean Richmond sold in Liverpool, England, for \$27,000. Steamer Hudson sunk near Cedar Point. Schooner Tempest sunk at Cleveland. Schooner Royal Oak sunk at Port Stanley. Schooner Ætna abandoned at Point Albino. Schooner Wyandotte wrecked at Buffalo. Canadian steamer New Era sunk in St. Lawrence river. The Mary wrecked on Lake Erie. Propeller M. P. Spaulding burned in Buffalo. Propeller Nicol sunk near Montreal. November: Bark American Republic wrecked at Buffalo. Schooner Ellen Gillmore lost on Lake Erie. Schooner Forest Queen sunk in Genesee harbor. Schooner Industry total loss at Port Colborne. Schooners Hamlet and McKay sunk at Chicago. Scow Brant sunk at Sandusky bay; raised and towed into port. Schooner Belmont lost near North Manistee. The City of Hamilton sunk near Hamilton. Propeller Northern Michigan sunk near Genesee river;

raised. Steamer Mazeppa a total loss at Saugeen. Schooner Ellen sunk in Thunder bay. Steamer Superior lost on Lake Superior during a storm. Propeller B. S. Webb burned on Lake Superior. Bark Norman lost near Simcoe. Schooner Cherokee lost on Lake Michigan; ten lives lost. Propeller Manhattan sunk by collision in Cleveland. Steamer Golden Gate goes to pieces near Erie; one life lost. December: Schooner Storm King and brig Algomah sunk at Milwaukee. Schooner Chas. Howard wrecked at Chicago. Scow Falcon sunk off Kelley's island. Steamer Lord Elgin totally wrecked off Long Point. Schooner Crevola sunk at Milwaukee. Schooner Odd Fellow sunk at Toronto. Schooner Cordelia sunk near Ashbridge's bay. Schooner Belvidere capsized and crew lost.

*Other complete losses of the season* were as follows: Steamer British Empire sunk by steamer Fashion in the St. Lawrence; steamer Monarch wrecked near Toronto; steamer Brunswick sunk in Lake Michigan and one life lost; steamer Welland burned at Port Dalhousie, Lake Ontario (\$50,000); steamer Brothers wrecked on Thames river; steamer Fashion lost at Bayfield, Lake Huron; propeller Paugassett burned at Dunkirk; propeller Protection sunk by steamer Boston in the St. Lawrence; propeller Falcon burned at Chicago; propeller Sandusky wrecked at Conneaut; propeller M. B. Spalding burned at Buffalo; propeller Louisville burned in the St. Lawrence river (\$30,000); propeller St. Joseph wrecked near Fairport (\$46,000); propeller Lord Elgin lost on Lake Ontario; brig Oxford sunk by propeller Cataract in Lake Erie, and five lives lost; brig Sandusky lost in the Straits, and seven lives lost; brig Seneca wrecked at Kalamazoo; brig A. R. Cobb wrecked near Chicago; brig Nebraska sunk by propeller Oriental in Lake Michigan; brig F. C. Clark wrecked at Manitowoc; brig Arabian wrecked on Lake Huron; brig Cumberland wrecked on Lake Huron at Bayfield.

The following named were all schooners: Wm. Penn wrecked at Point Pelee; Marengo sunk off Middle Sister, Lake Erie; Kate Hayes lost on Spectacle reef, Lake Huron;

Signal wrecked at Oswego; Maid of the West lost on Lake Michigan; J. E. Shaw lost in the straits; Ohio lost off Dunkirk with one life lost; Colonel Camp sunk by propeller Plymouth in Lake Michigan; Caledonia lost on Lake Michigan with six lives; Defiance sunk by brig W. Treat in Lake Michigan; J. W. Ross wrecked at Buffalo; War Eagle wrecked at Ashtabula; Maria Hilliard wrecked at Death's Door, Lake Michigan; Europe wrecked at Chicago; General Taylor wrecked near Chicago; Bohemia wrecked at Port Washington, Lake Michigan; Magnolia lost on Gull island, Lake Michigan; St. Anthony wrecked at Goderich; Canadian foundered in Lake Erie and 11 lives lost; J. G. King wrecked at Kalamazoo; Trenton lost on Lake Michigan; Egyptian lost at Point Pelee; George M. Chapman wrecked at Oswego; Perry lost on Lake Ontario; Industry wrecked near Port Colborne; A. J. Brown wrecked at Presque Isle, Lake Ontario, with two lives lost; Orion lost at Point aux Barques; Kansas foundered in Lake Michigan with 11 lives lost; Cherokee foundered in Lake Michigan and ten lives lost; Montgomery wrecked on Lake Ontario; Robert Bruce lost at Port Burwell; Thomas Bradley lost near St. Joe; Allegan wrecked on Lake Ontario; J. T. Williams lost on Lake Ontario.

Losses on hull and cargo during the season of 1856, \$3,126,744; lives lost 407; number of disasters 597.

1857.

*The Financial Panic of 1857.*—A panic struck the lake region in 1857 and commercial interests suffered greatly. Vessels in large numbers were laid up at the various ports, freight was down to the lowest margin, owners were despondent, and everything short of first or second class was without a calling. Two or three vessels had started out on European voyages, and were reported to have made fair returns. This was sufficient inducement for others to venture the experiment. Some reached the European coast of the Atlantic, and remained there for a time coasting, having become satisfied that there was no encouragement to return and repeat the ven-



ture; and thus the season of 1857 continued until its close.

*Departures for Europe.*—The bark C. J. Kershaw, Capt. D. C. Pierce, took a cargo of staves at Detroit and departed for Liverpool. The schooner Madeira Pet, which came over from Europe, also loaded with staves at Detroit and left August 10.

*Three Heavy Storms.*—There were three heavy gales during the season of 1857 entailing heavy losses. The first occurred April 11 from the northeast, causing much damage, especially on Lake Michigan, no less than five vessels being wrecked at Milwaukee. The next storm arose on May 3, from northwest, destroying much property on the lakes. The third and last storm set in October 7, continuing three days, which were the most memorable days, known for many years, with losses aggregating \$100,000, and many lives.

The rates for towing through the Welland canal varied from \$12 to \$30 according to the capacity of the vessel.

*Many Steamers Dismantled.*—The three mammoth steamers Western World, Plymouth Rock and Mississippi, which for three seasons plied between Detroit and Buffalo, were not commissioned this season, but were laid by at Detroit until the latter part of the year, when they were towed to Buffalo, their engines removed, and then taken to New York City. The Western World's engine was placed in a new steamship named the Fire Queen, and the Mississippi's engine in the steamship Guiding Star. The large steamers City of Buffalo, Crescent City, Queen of the West, Southern Michigan and St. Lawrence, which plied along the south shore of Lake Michigan, were also discontinued and thrown out of service. The City of Buffalo's engine was placed in the steamship Moro Castle at New York, the Queen of the West's in the steamship Evening Star, the St. Lawrence engine in the steamship Fokkian, and the Southern Michigan's was shipped to the North river. All of the above steamers were comparatively new, and consequently short lived. The through railroad lines were the cause of their re-

moval, and it may be doubted if they ever made enough to pay for their original cost.

*Holocaust Aboard the Steamer Montreal.*—The most deplorable disaster of the season was the destruction of the steamer Montreal by fire on the St. Lawrence river and the loss of 264 lives. She was valued at \$41,000, and was comparatively a new boat.

*Many Other Steamers Burned.*—In September the propeller Louisville, of 366 tons, with a valuable cargo, took fire on Lake Michigan, near Chicago, and was totally destroyed, fortunately without the loss of a life. She had been in service five years, and plied the upper and lower lakes.

In the month of October the propeller Sandusky was burned at Sandusky, and proved a total loss. She was of 460 tons burden, and was nine years old. The steamer J. C. Morrison burned on Lake Simcoe. The steamer Free Trader was burned at Port Stanley with a loss of \$23,000.

*Railway Disaster at the Desjardin Canal, Canada.*—It would be foreign to the scope of this work to more than refer to this sad event, as the railways of the Province are only indirectly connected with its marine; but it may be mentioned that two prominent owners of lake vessels perished, and another well-known owner narrowly escaped with his life. Those who were killed were Samuel Zimmerman, after whom one of the best known steamers on the lakes was called (since burned); the second being Captain Sutherland, well-known as captain and owner of lake vessels. Another victim was Edward Duffield, who had been for some time an officer on board the Europa. The late Thomas C. Street was the prominent ship owner who, though injured, was happily preserved.

*Other Events of 1857.*—The total loss on hull and cargo in 1857 was \$1,387,935; lives lost, 490; tonnage, 15,439 tons; number of disasters, 481. Six revenue cutters were built during the season of 1857. The ship City of Toronto sailed for Liverpool from Toronto with staves, and the bark Reindeer for the same destination during August with a like cargo. In November the propeller City of Superior, of 700 tons

burden, which came out new and was commanded by Capt. John Spaulding, was wrecked at Eagle Harbor, Lake Superior, after three months' service. The loss amounted to \$47,000, and not a vestige was saved. The number and valuation of steamboat engines lost on the lakes up to 1857 was estimated at \$8,000,000. None were recovered. There were several breaks in the Erie canal, which delayed traffic from eight to ten days. February 17: Navigation opened at Cleveland. March 27: Steamer Huron sunk at Chicago by collision with the submerged wreck of the schooner McKay. April 27: The season opened at Buffalo, the propeller Comet being the first boat to leave. The Straits of Mackinac were open May 1, the steamer Lady Elgin being the first through, going west. May 4: Bark Empire wrecked at Marblehead Point; eleven lives lost. May 2: Schooner Pilot sunk at Chicago. May 19: Schooner Cataract sunk by collision on Lake Erie. Schooner Tom Dyer sunk at Port Colborne. On July 4, an excursion was made from Buffalo to Niagara Falls, on the occasion of the practical completion of the hydraulic canal, in the Cygnet, the first steam vessel that ever landed within the corporate limits of the village of Niagara Falls, above the cataract. August 19: Scow Duncan Stewart capsized near Point Avon; crew saved by the schooner Ariel. September: Steamer Belle burned at Perysburg, damaging her to the extent of \$1,000. Government schooner Lamplighter driven on the rocks at Isle Royal, and totally wrecked. November: Schooner D. Newhall sunk at Buffalo. Schooner Malakoff sunk near Goderich, Ont. Brig Constellation ashore and total loss at Waukegan. Schooner Kossuth sunk near Chicago. Schooner C. C. Trowbridge sunk off Bar Point by collision with the schooner Fortune. Schooner C. J. Roeder frozen in the ice near Turtle island. Schooner Scott frozen in near Toledo. December 9: Propeller Napoleon a total wreck at Saugeen.

Other vessels which passed out of existence in 1857 were as follows: Steamer Louisiana wrecked at Port Burwell. Propeller Inkerman exploded at Toledo and

three lives lost. Propeller Oliver Cromwell sunk by the schooner Jessie in the Straits; was raised fifteen years afterward. Propeller Napoleon lost at Saugeen, Lake Huron. Propeller St. Nicolas wrecked at Sleeping Bear, Lake Michigan. Bark Empire wrecked at Marble Head with eleven lives lost. Bark Peerless wrecked at Dunkirk. Bark Oliver See wrecked in Straits of Mackinac. Bark Great West lost at Sleeping Bear. Brig David Stuart wrecked near Chicago with loss of seven lives. Brig Iceberg foundered with all hands in Lake Ontario; seven lives lost. Brig J. R. Giddings lost on Lake Michigan. Brig Jas. McBride lost near Sleeping Bear. Brig H. G. Stambach wrecked at North Manitou. Brig Constellation lost on Lake Michigan.

The following named were all schooners: Wide Awake wrecked near Oswego. Bell Atkins lost near same place. George Hanson lost on Lake Michigan with four lives. Emily foundered in Lake Michigan with loss of five lives. Temperance wrecked at Racine. Cataract sunk by propeller Kentucky in Lake Erie. Northern Star sunk by propeller Ontonagon in Lake Huron. Elizabeth sunk in Lake Ontario. Sarah A. Green wrecked at Dunkirk. Everett wrecked at Port Burwell. Dahlia wrecked on Hat island, Lake Erie. Isaac Buchanan burned at Port Stanley. Leander lost in Mackinac straits. Flying Cloud wrecked near Chicago and seven lives lost. Antelope lost near St. Joseph with five lives. Europa lost on Lake Ontario. Lark lost on Lake Michigan. Radiant foundered in Lake Erie and ten lives lost. Mars lost near Port Washington, five lives lost. Welland lost in Lake Michigan with eight lives. Oriental wrecked on Lake Ontario. Kossuth wrecked near Chicago. Forest lost near Goderich, Lake Huron. Brilliant lost near Sheboygan.

1858.

*Few Vessels Built.*—Owing to the pressure of the times but few vessels were built on the lakes in 1858, and these mostly of the smaller class. On Lake Ontario there were commissioned four side-wheel steam-

ers, one bark and 13 sail vessels. On the upper lakes one side-wheel boat, eight propellers, one bark and 25 sail craft.

*Vessels Left for Ocean Voyages.*—During the navigation of 1858 there were 15 vessels which left the lakes on voyages on the Atlantic, chiefly bound for ports in England: Schooner Queen, 375 tons burden, loaded at Toronto with staves for Liverpool, but did not return. Bark Chieftan, 375 tons, Capt. Benjamin Wolvine, loaded at Detroit with a like cargo for same destination. Bark H. E. Howe, Captain Day, oak lumber at Detroit for London, England. She was sold at that port in 1860 for \$7,500. Brig Black Hawk, 384 tons, Captain Alexander, lumber at Detroit for Liverpool. She returned to the lakes and was lost at Point Betsey, Lake Michigan, in 1862, with a cargo of 19,000 bushels of corn. Schooner Colonel Cook, 327 tons, Captain Humphrey, lumber and staves at Detroit for Liverpool. On arriving in the Gulf of St. Lawrence she was wrecked, and became a total loss with her cargo. She was owned by George W. Bissell at Detroit. Schooner O. B. Sexton, 345 tons, Capt. Thos. A. Burke, staves, at Detroit for London, England. The Sexton was wrecked in the Straits of Gibraltar in 1862. Schooner Correspondent, 294 tons, Capt. J. Morris, wheat, Detroit for Liverpool. Schooner C. Reeve, 299 tons, Capt. G. M. Hall, staves at Detroit for Liverpool. The Reeve with a cargo of 13,500 bushels of corn, sunk off Oak Orchard, Lake Ontario, in 1862 while in command of Capt. Thos. Donahue. Schooner Harvest, 309 tons, Capt. Harvey Rummage, staves at Detroit for London, England. Bark E. S. Adams, 407 tons, Captain Nelson, sailed from Lake Ontario with lumber for Liverpool. Bark D. C. Pierce, 396 tons, Capt. Thomas Kidd, staves from Detroit, same destination. Bark C. J. Kershaw, 382 tons, Captain Moore, lumber, same destination. Schooner R. H. Harmon, 343 tons, Captain Huntoon, staves at Detroit same destination. Schooner J. F. Warner, 341 tons, Capt. A. R. Manning, staves at Detroit for Greenock. Bark Parmelia J. Flood, 384 tons, Captain Anderson

from Green Bay with lumber for the West Indies.

*Statistics.*—In the spring of 1858 there were in commission, on all the lakes, 130 side-wheel steamers with a total tonnage of 72,108 tons, and a valuation of \$3,953,800; 182 propellers, 65,271 tons, valuation \$3,537,900; 57 barks, 22,817 tons, valuation \$707,500; 99 brigs, 27,121 tons, valuation \$628,900; 974 schooners and sloops, 200,300 tons, valuation \$6,383,900; total number of craft, 1,442, tons 387,740, valuation \$15,212,000.

*Other Events of 1858.*—Navigation commenced at Buffalo April 15, and Mackinac straits were clear April 3. The schooner Fred Hill was the first to pass through, bound west. April 5: Propeller Forest City burned at Port Stanley; 7, brig John G. Deshler sunk at Cleveland; 10, scow Wave capsized off Cedar Point during a storm; 12, steamer Europa sunk at Toronto. May: Bark Lemuel Crawford wrecked at East Sister island. Schooner Arcadian wrecked by collision with schooner Lucy J. Latham, off Big Sodus. Scow-schooner Traveler wrecked at Point Pelee. Schooner Rainbow damaged by lightning in St. Clair river. Propeller Montgomery struck by lightning on Lake Michigan. June: Steamer Fremont burned at Sandusky. Propeller Indiana sunk near White Fish Point. Schooner William Foster capsized on Lake Michigan. Steamer Lady Elgin wrecked on Lake Superior; insured for \$32,000; released from rocks July 4. July: Propeller North America destroyed by fire at the Flats. Scow George Neville water-logged and disabled on Lake Erie. Scow Liberator capsized on Lake St. Clair. Schooner Andromeda sunk on Lake Michigan, near Manitowoc. Schooner Ellen Pike capsized near St. Joseph, Lake Michigan. August 3: Canadian bark E. H. Rae capsized on Lake Ontario; Canadian schooner Premier sunk at mouth of Evans Ship canal; schooner Blue Bell capsized near Chicago; schooner Fame capsized off Monroe, Mich.; scow Cerro Gordo capsized near the head of the St. Clair river; Canadian schooner Hamilton sunk on Lake Ontario, total loss; propeller Stockman disabled and towed to



Buffalo; bark Ontario water-logged off Long Point; scow Nimrod sunk near Port Stanley; the New Brunswick sunk near Point Pelee and five lives lost; steamer Telegraph sunk on Lake Erie by the schooner Marquette, valued at \$7,000. The Telegraph was a passenger boat plying between Cleveland and Port Stanley, and was on her return home to Port Stanley when run down. She had been built at Detroit, and was owned and commanded by Capt. Richard Burrows. September: Schooner Col. Cook wrecked near the mouth of the St. Lawrence; total loss. October: Schooner Coquette sunk at Put-in-Bay; propeller Garden City ashore at Little Point Sable; released October 17 and sunk in 20 fathoms of water. November: Tug Petrel wrecked by explosion of her boilers; tug Hamilton Morton sunk in the Detroit river after being severely damaged by fire; propeller Prairie State collides with the schooner Invincible in St. Clair river.

The following craft also passed out of existence: Steamer Trenton burned at Picton, Lake Ontario; tug Kossuth wrecked at Grand Haven; tug Hercules exploded on the St. Lawrence and seven lives lost; bark Canada, formerly a passenger steamer plying between Buffalo and Detroit, lost near Chicago; brig Shakespeare wrecked on Pilot island, Lake Michigan; brig Ontario lost in Green bay.

The following named were all schooners: Emily C. wrecked in Georgian Bay; Watchman wrecked near Dunkirk; Calvin Snell sunk in Lake Ontario; Arkansas wrecked at Kenosha; Com. Chauncey lost on Point Albino; Lavinia wrecked at Port Washington; Caledonia wrecked on Lake Michigan; Osprey wrecked at Oswego with three lives lost; Java lost at Dunkirk; Albion foundered in Lake Erie and eight lives lost; Mary Watson wrecked at Goderich; Wave lost at Inverhuron, Lake Huron, two lives lost; Minerva Cook sunk by bark Clayton in Lake Ontario; Zenobia lost at Point Betsey; Roman foundered in Lake Erie and nine lives lost; Harwich wrecked at False Presque Isle, Lake Huron, and seven lives lost; London lost at Sodus, Lake Ontario; Home sunk by schooner Wm. Fisk in Lake Michi-

gan; John Oades wrecked at Muskegon; Rockaway lost near Goderich; City of Toronto wrecked near Oswego; Hope (Canadian) lost on Hope island, Georgian Bay; J. A. Hope wrecked at Port Burwell; Farmer lost near St. Joseph, Lake Michigan.

The following named vessels were all scows: Ida and Mary foundered in Lake Ontario and two lives lost; Pilot founded near Chicago with two lives lost; Globe lost on Lake Michigan with seven lives lost; Maine, wrecked at Point aux Barques; total number of disasters 362; lives lost 122, amount of losses, hull and sail, \$732,232.

1859.

*Trade Still Backward.*—The backward state of lake business in 1859 limited the construction of vessels, and consequently but few were commissioned.

*Large Ice Trade in April.*—During the month of April, owing to a failure of the ice crop at various lower ports, notably Cleveland and Detroit, quite a number of sail craft embarked in the trade to points on Lake Huron. The propeller Mineral Rock brought 400 tons of ice from Frying Pan island. This traffic was kept up until the middle of May.

*Passages of Vessels at Detroit.*—Bound up: Steamers, 194, propellers 492, barks 273, brigs 293, schooners 1,811—total 3,065; downward passages: steamers 195, propellers 503, barks 284, brigs 314, schooners 1,825—total 3,121; grand total both ways 6,186. Greatest number passing up in one day 85, down 73.

*Opening of Navigation.*—Scow California leaves Cleveland for Black River February 2. Lake business commenced at Detroit, March 10, the steamer Island Queen, Captain Orr, arriving at that port; at Port Colborne, April 1, and Buffalo April 7, the propeller Equinox the first to depart. The Straits of Mackinac were clear April 4, the propeller Prairie State being the first craft through bound west. The first boat through the Sault canal was the steamer Lady Elgin, Capt. Jack Wilson, May 3.

*Other Events of 1859.*—March: Cana-

dian schooner Linnie Powell wrecked near Buffalo; Captain McManus, who was in command, drowned; propeller Lady of the Lake wrecked on Lake Erie, by the explosion of her boiler; two lives lost. April: Schooner Fulton sunk near Mackinaw with a cargo valued at \$22,000; brig Manchester totally wrecked at Madison, Ohio. May: Schooner Euphemia wrecked off Black Lake, Lake Michigan; six lives lost. June: Schooner General Houston totally wrecked at Fairport, Ohio. July: Bark B. A. Standart capsized near Rondeau; bark Sunshine capsized off Fairport, Lake Erie; several lives lost; schooner T. G. Colt capsized on Lake Erie. September: Propeller Manhattan wrecked near Grand Sauble; schooner Ethan Allen driven on the rocks at Copper Harbor; brig Buffalo a total loss at Grand Haven. October: Propeller Troy foundered off Point aux Barques, 23 lives lost; Canadian schooner Burton sunk at Buffalo; schooner Dawn sunk by collision with propeller New York near Port Stanley; five lives lost; Canadian schooner Harriet Ann lost near Nine Mile Point; propeller Oriental ashore near Skillegalee; a total wreck; brig Roscius sunk at the Flats; schooner Sarias Burchard sunk at Bay City; schooner Valeria arrives at Cleveland from Liverpool. November: Tug Experiment sunk at the Flats; schooner Cleopatra sunk by collision with schooner Adriatic off Port Maitland; schooner Dispatch sunk in Welland canal; schooner Bay City abandoned at East Sister reef; propeller Milwaukee and schooner J. H. Tiffany sunk by collision in the Straits of Mackinac; five lives lost; brig N. M. Standart sunk by collision with the propeller Racine at the North Manitou. December: Schooner Australia a total loss at Port Colborne; scow Brant sunk on Lake Huron.

The following craft also passed out in 1859: Steamer Asa R. Swift exploded on St. Clair river. Minor lost at Ontonagon, Lake Superior. Propeller Ohio exploded and sunk off Erie and two lives lost. Brig Portland wrecked at Grand Haven. Columbia lost in Green Bay. Buffalo wrecked at Grand Haven. Greyhound lost near Sheboygan and one life lost. Cumberland

wrecked at Milwaukee. Missouri wrecked at Kalamazoo.

The following named were all schooners: Big Z lost near Sheboygan, Lake Michigan. Virginia Purdy wrecked at Point Pelee. Forest sunk by brig Acadia in Lake Erie and one life lost. Dawn sunk by propeller Milwaukee in the Straits and five lives lost. Twilight lost on Lake Ontario. California lost at Port Clinton, Lake Erie. White Pigeon lost on east shore of Lake Michigan. Sodus wrecked on east shore of Lake Michigan. Coaster wrecked on Lake Superior. Island Queen wrecked in the Straits. C. L. Burton wrecked at Ashtabula. A. Scott wrecked at Vermilion. Constitution lost at Port Spruce, Lake Erie. Ada lost at Lakeport, Lake Huron. E. Creamer wrecked at Chicago.

The following named were all scows: Antelope lost at Point Pelee. William wrecked at Fairport. Stanley lost in Georgian Bay. Sea Witch wrecked at Fort Erie, Ont. Geneva lost at North Manitou. Loss by steam vessels, \$351,535; loss by sail vessels, \$668,565; lives lost, 105; disasters, 440. The fall of 1859 was attended with more heavy gales than had been known in many years.

• 1860.

*Wreck of the Lady Elgin.*—One of the greatest marine horrors on record was the loss of the steamboat Lady Elgin, on Lake Michigan, September 8, 1860. She was struck by the schooner Augusta, and sank in twenty minutes, in 300 feet of water. She had on board 300 excursionists, 50 ordinary passengers, and a crew of 35 officers and men, a total of 385. Of these only 98 were saved. Among the lost was Herbert Ingram, of the "Illustrated London News."

The schooner Augusta, Capt. D. M. Malott, reached Chicago early Saturday morning, Sept. 8, and reported that on the night previous, about midnight, she had collided with a large steamer. The Augusta had a full cargo of lumber, which had shifted in the collision. She had struck head on, suffered the loss of her headgear, and was leaking badly. The captain knew

nothing of the extent of the disaster to the other vessel.

The steamer *Lady Elgin* had left Milwaukee early Friday morning September 7, for Chicago with 300 excursionists, largely members of the Independent Union Guards, and their friends. She left Chicago in the evening between 10 and 11 o'clock on her regular trip to Lake Superior, taking about 50 passengers for Mackinaw and other northern points in addition to the 300 Milwaukee excursionists. The evening set in with a wind moderately high. A heavy thunder storm came up about midnight, and the wind grew to a perfect gale. The sea ran high and so continued throughout the night and Saturday.

At the time of the collision the *Lady Elgin* was steaming northward against the wind. The *Augusta* was sailing south by east under all sail except the gaff topsail. The steamer had all her lights set, the schooner had none. A half hour before the collision the second mate of the *Augusta*, on watch, saw the steamer's lights, and for 20 minutes no orders were given. Evidence taken before the coroner's inquest showed that the captain of the *Augusta*, who had come forward, seemed bent on passing to the starboard of the *Lady Elgin* instead of on the larboard side, according to rule. Shortly before the collision he ordered his helm head up, but she came straight on the steamer's larboard side, knocking a hole in her side.

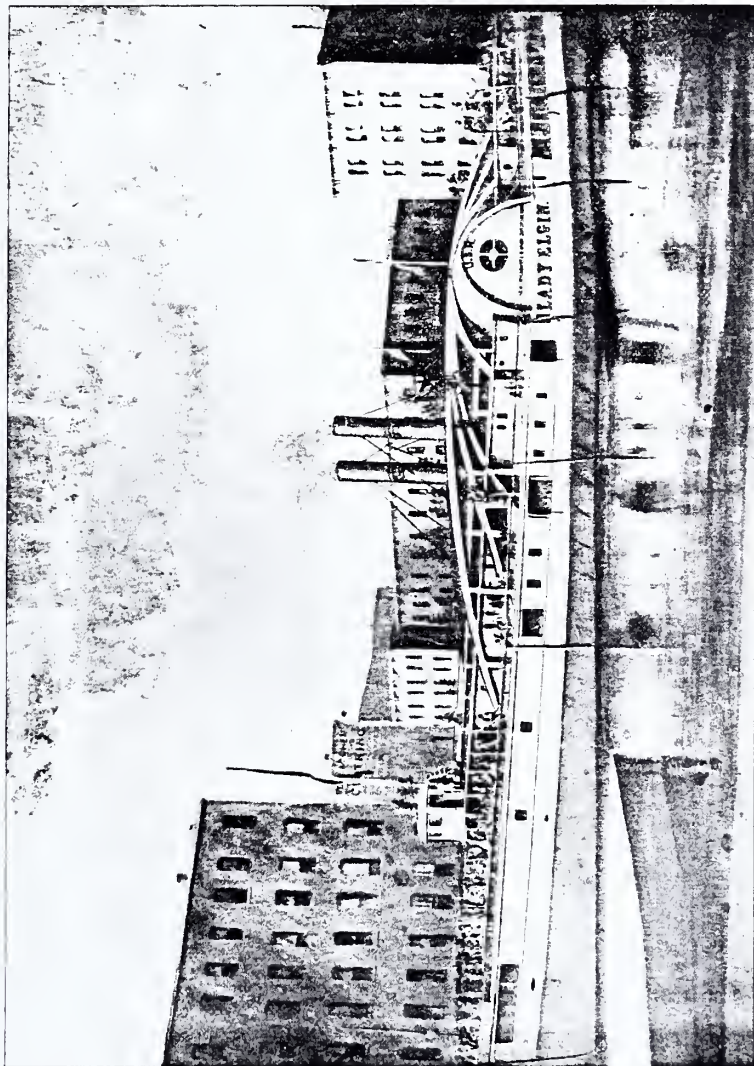
It was about 2:30 o'clock on Saturday morning when the collision occurred. The *Lady Elgin* was about 10 miles from shore, off Winetka, 16 miles north of Chicago. The schooner struck the steamer at the midships gangway on the larboard side, tearing off the wheel, cutting through the guards and into the cabin and hull. The two separated instantly, and the *Augusta* drifted by in the darkness. At the moment of collision there was dancing in the forward cabin, but most of the passengers had retired for the night. In an instant all was still. Captain Wilson ordered a lifeboat to be lowered on the starboard side, to be rowed around and discover the extent of the injury. It dropped astern and did not regain

the steamer. The latter was headed west in order to reach shore if possible. But the vessel began to fill rapidly and to list. Freight was rolled to starboard and passengers were provided with life-preservers. The *Elgin* began to settle and reel, and many passengers threw themselves overboard. Just when the vessel took the final plunge, a sea struck her upper works and they parted from the hull and floated off in several pieces. The night was intensely dark, lighted up at intervals by flashes of vivid lightning, and wreckage was scattered about profusely.

Two boats had been lowered, and in these 18 persons reached shore. Fourteen were saved on a large raft, and many others on parts of wreckage. It was estimated that 393 [another statement says 385] souls were aboard the vessel, and of these 98 were reported saved.

A survivor named Bellman, after describing how he and others with the captain got upon a raft, says: "On this extempore raft not less than 300 persons were collected, the majority of whom clung to their places until nearly daylight. The raft was mostly under water from the weight of its living burden, and very few who clung to it but were above the waist in the turbulent sea. The captain was constantly on his feet, encouraging the crowd, and seems to have been the only man who dared to stir from his recumbent position, which was necessary to keep a secure hold upon the precarious raft. He carried a child which he found in the arms of an exhausted and submerged woman, to an elevated portion of the raft, and left it in charge of a woman, when it was soon lost. He constantly exhorted the crowd to keep silent, and not only to make no noise, but to refrain from moving, in order that the frail framework might last the longer." Bellman further states that during the time which elapsed while the raft kept together there was scarcely a sound from man, woman or child. They clung to their places in silent terror, and neither groans nor prayers were audible; no voice, save that of the captain raised aloud in encouragement and good cheer, being heard amidst the roar of the wind and





STEAMER LADY ELGIN.

Wrecked off Winnetka, September 8, 1860, by collision with schooner Augusta. 400 passengers on board—only 98 saved.  
From a photograph taken as the steamer lay in the Chicago river, between Clark and La Salle streets, September 7,  
1860, the day before the disaster. Copy obtained from Capt. James S. Dunham, Chicago.



the ceaseless splash of the combing waves. Finally the constant action of the water broke up the raft, and large parties floated off on detached pieces, and gradually the multitude melted away by couples and solitary individuals until but a tithe of the whole number remained. The swell tumbled the light rafts about like feather-weights, and a weary struggle the hopeless survivors had during the long drift of ten miles intervening to the shore. Bellman was ten hours on his raft, and says that he was capsize and thrown into the sea, with his two companions, every third minute. When they reached the shore they were dashed about hopelessly in the surf, and, more fortunate than their companions, were lifted upon the beach by the breakers and rescued. The heroic captain was among the lost.

The Lady Elgin was rated a first-class steamer, and had been a favorite with the traveling public. She was built in Buffalo in 1851 by Bidwell & Banta at a cost of \$96,000. For several years she ran between Buffalo and Chicago, then between Chicago and Collingwood, but for many seasons had constituted the line between Chicago and other Lake Michigan ports and Lake Superior. The Augusta was owned by Capt. G. W. Bissell, of Detroit, who not long after had her name changed to Col. Cook. She was the second vessel of that name, the first Col. Cook having been wrecked in the St. Lawrence.

*Total Loss of the Dacotah.*—The season of 1860, as regards the loss of life and property was the most disastrous on record, and the loss of life the most deplorable since known. During the terrific gale in November, occurred the destruction of the propeller Dacotah, Capt. William Cross, on Sturgeon Point in Lake Erie, with 24 lives, not a soul being saved. It was a fearful night, and the suffering among vessels was above description. The Dacotah was 688 tons burden, and had been but three years in commission. She left Buffalo in the evening freighted with merchandise for Chicago, with no passengers. Nothing but fragments were ever seen afterward, so complete was her destruction. She was built by Luther

Moses at Cleveland, and was valued at \$33,600. She was owned by James F. Clark, of the New York Central railroad.

*Jersey City Meets Her Fate.*—In the same storm the propeller Jersey City met her fate on Long Point, Lake Erie, with 19 lives, and freighted from Cleveland with a miscellaneous cargo. She was of 633 tons burden, and commanded by Captain Monroe, a man of large experience on the lakes. Portions of her cargo drifted ashore on the south shore of the lake, and her lifeboat was found near Buffalo.

*Hurricane Goes Down.*—In the same storm the schooner Hurricane, with a cargo of rye, foundered in Lake Michigan with nine lives. The bodies all drifted ashore near St. Joseph. She was sailed by Capt. William Welch, who resided in Buffalo. She was owned by Sears & Clark, of that city.

The loss of property on the lakes by disasters in 1860 was \$1,200,000, and of lives 578.

*The Sault Canal.*—A writer, describing a trip made up the lakes in 1860, thus speaks of the Sault: "We reached the Sault Saint Marie about 4 P. M. of the 2d of August. Here the river St. Mary on the eastern outlet of Lake Superior, after a wide course of fifty miles, gathers the multitude of its waters into a narrow channel of less than a mile in width and length, of swift and impassable rapids.

"The grand ship canal, with its stone banks of about 80 feet width, and three locks, transports the largest tonnage around these rapids. This great work was completed in 1857 by the contractors Erastus Corning, of New York, Fairbanks and others, for a contract price of 750,000 acres of land, chiefly mineral, in the State of Michigan. During our steamer's canal passage of about two hours, we were interested by the picturesque scenery, untenanted save by the wigwam and the bark canoe. As usual, upon the arrival of the steamer, the long canoe, steadily held by a single boy and paddle in a current swift as the Niagara, shoots out into the Sault, while the Indian, standing erect in the canoe, posing his harpoon and scrap net, strikes or swoops in the



large and delicious white fish, assured of a capacious basketful and more, before the steamer leaves the canal."

*Other Events of 1860.*—March 23: Channel staked out at The Flats; 26, C. J. Kershaw, in command of Captain Mayne, sails for Constantinople. Navigation of 1860 opened at Buffalo on April 17, the propeller Equinox being the first boat to leave, followed the same day by the propeller Araxes. The Straits were open April 12, the propeller Buckeye being the first craft through, bound east. Steamers on Lake Superior passed through the Sault canal May 11, the propeller Fountain City, Capt. E. M. Peck, being the first boat through. The Erie canal opened April 15, and closed December 12. May: Bark American Republic abandoned. Cleveland brig, J. G. Deshler, sails for Liverpool. Schooner Fidelity abandoned. Steamer Prairie State sunk in the Straits of Mackinac. Steamer Arctic is wrecked on Huron island, Lake Superior; total loss. June: Schooner Rebecca sunk near Detour. Propeller Portsmouth disabled. Boiler of propeller Kenosha exploded in Sheboygan; clerk and engineer killed. Boiler of propeller R. H. Foss exploded. July: Steamer Ohio, of Reid's line, towed to Buffalo and burned for her iron. The schooner Washington Irving lost between Erie and Buffalo; six lives lost. August: During 36 hours, 100 sail vessels passed Detroit, besides 17 propellers and several steamers, carrying cargoes valued at a quarter of a million dollars. Schooner Wyandotte damaged on Lake Michigan by lightning. Price on wheat from Chicago to Kingston, 15 cents per bushel; from Chicago to Buffalo, 10 cents. September: Schooner A. L. Hazelton, of Buffalo, capsized on Lake Erie; crew rescued by propeller Marquette. The Prince of Wales, eldest son of Queen Victoria, arrived in Toronto from Cobourg on the steamer Kingston. Canadian schooner W. H. Davis sunk in storm on Lake Erie. Steamer Gazelle, of Detroit, lost on Lake Superior near Eagle harbor. Schooner A. E. Marsilliot, of Cleveland, capsized off Port Bruce; Captain Burger drowned. Schooner Silas

Wright wrecked near Dunkirk; total loss. During the latter part of September, a severe storm occurred on Lake Erie, which caused the loss of a number of vessels, among them the schooner Champion, of Oakville; the brig Ocean, of Chatham; the Antelope, of Morpeth, and the J. G. Scott, of Port Burwell. The captains of the Ocean and the Antelope were also lost besides many others. October: Propeller Mt. Vernon sunk at Point Pelee from explosion, and two lives lost. Scow Ottaca sunk in Point Pelee passage. November: Brig J. G. Deshler sunk in Sheboygan river; bark T. F. Park, bound for Europe, ran ashore at Stony island; propeller Mohawk, of Western Transportation Co., exploded on St. Clair flats, two firemen killed; propeller Globe exploded at Chicago, 16 men killed; steamer Chippewa Valley sunk near Trempealeau, Wis.; schooner Kyle Spangler sunk off Presque Isle, Lake Huron; scow E. S. Taylor goes to pieces near the mouth of the Detroit river; schooner Industry goes to pieces; schooner Zadoc Pratt sunk in Point Pelee passage on the wreck of the propeller Mt. Vernon; propeller Wabash Valley, valued at \$28,000, wrecked at Muskegon; propeller Dacotah lost with crew; schooner Hurricane goes ashore and all hands lost. December: Bark T. F. Park sails for Europe; brig John H. Harmon, recently wrecked, raised and sold to parties in Prince Edward Island.

The following craft also passed out of existence in 1860: Steamer Troy during a freshet drifted out of Goderich and sunk. Steamer John Owen burned at Port Huron. Steamer Hendrick Hudson burned at Cleveland; \$10,000. Steamer Jacques Cartier sunk by steamer Magnet in St. Lawrence. Propeller Globe exploded at Chicago and 16 lives lost. Tug A. S. Fields exploded at Detroit and five lives were lost. Bark Superior wrecked at Gull bar, Lake Ontario. Brig St. Louis lost near Erie, Lake Erie. Brig Belle wrecked near Bailey's Harbor. Brig Clarion lost on Lake Michigan. Brig Mineral wrecked near Oswego. Schooner Mary lost near Cleveland with three lives.

The following named were all schooners: Gertrude wrecked near Manitowoc. W. H.

Davey sunk near Middle Sister. T. P. Handy lost near Kenosha, Lake Michigan. St. Mary foundered in Lake Michigan and seven lives lost. Rocket sunk off Point aux

Barques. Circassian lost near Mackinaw. Spartan lost near St. Joseph. Total amount of losses, \$1,156,015; loss of life, 578; number of disasters, 382.

## CHAPTER XXXVIII.

1861-1870.

REVENUE CUTTERS ORDERED TO NEW YORK, 1861—STEAMER PEERLESS—FOUNDING OF THE KEYSTONE STATE—STATISTICS—OPENING OF NAVIGATION—OTHER EVENTS OF 1861—NAVIGATION OF 1862—STRUCK BY LIGHTNING—OPENING OF NAVIGATION—FIRST IRON PROPELLER BUILT—SAILED FOR EUROPE—OTHER EVENTS OF 1862—SUNBEAM LOST ON LAKE SUPERIOR, 1863—DESTRUCTION OF THE LEWISTON SUSPENSION BRIDGE—THE LARGEST TOW—GOVERNMENT REQUISITION FOR TUGS—ARRIVALS FROM NORWAY—OTHER EVENTS OF 1863—JOHNSON ISLAND CONSPIRACY, 1864—CASUALTIES OF 1864—LAKE FREIGHTS IMPROVE—BARK WESTERN METROPOLIS LOST—OTHER EVENTS OF 1864—LOSS OF THE PEWABIC, 1865—FREIGHT RATES REMUNERATIVE—MANY DISASTERS—FAST SAILING—OTHER EVENTS OF 1865—A CRAZE FOR LAKE CRAFT, 1866—HIGH SPEED ENJOINED—TUGS ENGAGED IN TOWING—FENIAN RAID INTO CANADA—OTHER EVENTS OF 1866—SHIP BUILDING ACTIVE, 1867—SUCCESSFUL VOYAGE THROUGH NIAGARA RAPIDS—EUROPEAN VOYAGES—DISASTERS DURING 1867—BURNED ON THE ST. LAWRENCE—OTHER EVENTS OF 1867—INCREASE OF MORTALITY ON THE LAKES, 1868—BURNINGS, WRECKS, ETC.—FROM STEAMER TO BARGE—OTHER EVENTS OF 1868—GREAT STORM OF NOVEMBER, 1869—CLASSIFIED LIST OF VESSELS LOST IN THAT STORM—SUMMARY OF DISASTERS DURING 1869—DECLINE OF SIDEWHEEL STEAMERS—OTHER EVENTS OF 1869—LOSSES DURING 1870—DEPARTURES FOR EUROPE—OTHER EVENTS OF 1870.

1861.

**F**IVE of the six revenue cutters on the lakes, all schooners of about 60 tons burden, were ordered to New York City. These were the Jacob Thompson, Capt. T. S. Thompson; A. V. Brown, Capt. D. Ottinger; Isaac Toney, Captain Brown; J. S. Black, Captain Lanagan; and the Howell Cobb, Captain Williams. They were all built at Milan, cost a good round sum, and were valueless for the purposes intended, owing to their small size and mode of propulsion.

*Steamer Peerless.*—The history of the steamer Peerless, of Toronto, is somewhat interesting. About the beginning of May, 1861, she was purchased by J. T. Wright,

of New York, from the Bank of Upper Canada, for \$36,000. On May 10 she left Toronto, under command of Capt. Robert Kerr. On reaching Montreal she had to be dismasted in order to enable her to pass under the Victoria bridge, and on May 27 she reached Quebec, where it was ascertained that under British laws she could not sail for a foreign port without an Imperial charter, which the officer at Quebec could not give, as she was owned by an American. Mr. Wright thereupon made application to the American consul at Quebec for a sailing letter; but this was declined on the ground that the vessel might be destined for service in the navy of the Confederate States. Mr. Wright was finally enabled to get his vessel out of port by giving heavy bonds that the

Peerless should not be used for war-like purposes, and he was allowed to clear her on condition that Captain McCarthy, a native of Nova Scotia, but a naturalized citizen of the United States, should command her. She at last formed one of the Burnside expedition, and was lost off Cape Hatteras, Mr. Wright receiving for her about \$100,000 on account of her loss and \$6,000 for her services in the war.

*Foundering of the Keystone State.*—The steamer *Keystone State* foundered on Lake Huron about November 20, with all on board, some 33 persons. She had left Detroit for Milwaukee, and when last seen was off Port Austin, Lake Huron, encountering a severe storm and apparently unmanageable. Floating pieces of wreckage, seen off Point aux Barques, were supposed to be vestiges of the ill-fated vessel. She was a large old steamer, and had plied for years between Buffalo and Chicago. She was not provided with boats, and was in command of Capt. Wilkes Travers, of Buffalo.

*Statistics.*—In 1861 there were in commission on the northern lakes 147 side-wheel steamers, aggregating 64,669 tons, valuation \$2,668,900; 203 propellers, 69,051 tons, valuation \$2,804,900; 62 barks, 25,118 tons, valuation \$626,800; 36 brigs, 24,871 tons, valuation, \$57,100; 989 schooners, 204,900 tons, valuation, \$5,284,900; 15 sloops, tonnage, 2,800 tons, valuation \$11,850. Total number of all classes, 1,502; total tonnage, 383,309 tons; total valuation \$11,862,450.

*Opening of Navigation.*—Navigation between Detroit and Port Huron commenced March 11. The steamer *Ruby*, Capt. C. F. Moore, reached the latter port on that date. The propeller *Cleveland* arrived at Port Colborne April 10, from Buffalo; April 13 the propeller *Queen of the Lakes* sailed for Lake Superior. The Sault canal was clear May 3, and the steamer *Michigan*, Capt. Albert Stewart, was the first boat through. The Straits of Mackinac were open April 25, the propeller *Prairie State* being the first boat through, bound eastward.

*Other Events of 1861.*—February 25:

Cleveland schooner *Twin Brother*, owned by W. N. Bates, lost at sea. March: Sailboat *Martin Johnson* lost on Lake Erie. Bark *Quebec*, wrecked at Nine Mile Point, Lake Ontario, released; 10, work of Cleveland shipyards during the past winter amounted to \$120,000. Contracts given for three lighthouses on the coast of Lake Superior, lights to be of the third order, and to cost \$45,000. April: Detroit ship-masters fix seamen's wages at \$20 per month. May: Bark *Berlin* capsized off Beaver island. Tug *Uncle Ben*, of Detroit, chartered by the government for coast service. Schooner *Freeman* lost near Buffalo, five of the crew drowned. Schooner *A. Handy*, sunk near Spectacle reef, Lake Huron. Schooner *Sir Edmund Head*, sunk at Allanburg, Welland canal. Steamer *Saginaw* burned near the St. Lawrence river. Tug *Rapid*, of Buffalo, leased by the government. Bark *Pierce*, of Cleveland, in command of Capt. Chas. Gale, sunk by Rebels; cargo valued at \$50,000. June: Bark *Ravenna* sails for Liverpool in command of Captain Maloit. Propeller *Michigan* and schooner *Storm King* collide; *Storm King* sunk. Schooner *Adriatic* returns to the lakes after a long ocean trade. July: Steamer *Bowmanville* left Toronto with a large number of excursionists on board to see the famous steamship *Great Eastern*, which had just arrived at Montreal from England. Propeller *L. B. Britton* lost near Calumet, Lake Michigan. Hull of the old steamer *Sultana*, sunk a year ago at Hog island, raised and rebuilt. Schooner *Andover* abandoned at Point aux Barques; built at Black River, Ohio, in 1844. Schooner *Pilot*, sunk in Detroit river, raised. Schooner *Lone Star* struck by lightning and sustained considerable injury. August: Barge *Etheland* sunk at Kingston. Schooner *Muskegon* arrives at Chicago direct from the West Indies. Schooner *Eveline Bates* struck by lightning, resulting in serious injuries. Scow *Frolic* sunk at Cleveland. Raft of timber, valued at \$35,000 in tow of the tug *Magnet*, lost on Lake Erie. Schooner *Orion* sunk near St. Joseph. Steamer *Huron* sunk at Port Austin. Steamer *Albion* ran on the rocks



near Sandwich Point, and sank soon after. September: Schooner E. P. Dorr sustains serious injuries from coming in contact with a waterspout. Propeller Banshee sunk near Timber island, Lake Ontario. Barge Cato sunk on St. Lawrence river with 10,000 bushels of wheat. Elevator completed at Grand Haven, owned by Detroit & Milwaukee R. R. Co. New lighthouse at Point Pelee. October: Scow Frank Brown sunk by propeller Montgomery. Tug McQueen purchased by government to be converted into a gunboat. Steamer Minnesota abandoned at Summer island, Lake Michigan. Steamer Ruby and scow R. G. Allen collide in Lake St. Clair; Allen sunk. Propeller Oregon, sunk last year, raised. Schooner Echo, of Toronto, lost at Gull Bar. December: Scow Mathews sunk at Kelley's island. The following craft also passed out of existence in 1861: Steamer St. Peters burned on the ways at Sorel; steamer Saginaw burned in Lachine canal; steamer Comet, sunk by schooner Exchange in Lake Ontario, and three lives lost; steamer Minnesota wrecked on Summer island, Lake Michigan; steamer Keystone State, foundered in Lake Huron and thirty-three lives lost; propeller Cataract burned on Lake Erie with loss of four lives; propeller S. S. Britton wrecked near Calumet, Lake Michigan; propeller Oshaw wrecked at South Bay, Lake Ontario; tug George Notter, burned on Lake Michigan; bark Northerner wrecked on Long Point, Lake Erie; scow Enterprise lost at Bark Shanty, Lake Huron; scow Plough Boy wrecked at Black River, Lake Erie.

The following named vessels were all schooners: Schooner Freeman wrecked near Buffalo and five lives lost; E. C. Williams wrecked near Erie; Margarette wrecked near Sodus, Lake Ontario; E. Henderson lost at Waukegan, Lake Michigan; J. M. Jones lost on Lake Michigan; Sorel wrecked twelve miles from Oswego; Beaver wrecked at Nine Mile Point, Lake Ontario; C. L. Abbell wrecked on Point Wawgochance; Calcutta lost at Kalamazoo, Lake Michigan; Metcalf lost near the Ducks, Lake Ontario; L. M. Mason wrecked at Presque Isle,

Lake Ontario; W. S. Nelson and the Dardanelles lost in same locality. Total loss of steam and sail vessels: \$867,347; loss of life, 116.

1862.

*The navigation of 1862* commenced with the freights ruling firm and remunerative. Tugs received from \$25 to \$35 per vessel for towing from Lake Huron to Lake Erie. The tug E. M. Peck carried the broom on the rivers, claiming a superiority of speed over all others. The barks Northwest and Oneonta had a trial of speed between Chicago and Buffalo. Both vessels passed through the rivers in the same tow, but the latter succeeded in reaching Buffalo first. The bark Sleipner from Bergen, Norway, Captain Waage, arrived at Detroit, August 24, *en route* to Chicago with 105 passengers on board. The schooner Oriole, Captain McAdam, laden with ore, collided with the steamer Illinois, and sunk with the loss of twelve lives, including the captain, his wife and mother-in-law. The bark British Lion arrived at Detroit wire-rigged, the first with a wire fitout on the lakes, Capt. R. Gaskin master and owner. A freshet took place in the Genesee river, forcing the steamer Maple Leaf from her winter moorings into Lake Ontario with only her captain on board. The schooners Col. Cook and Minnesota shared a like fate, but all soon after got into port again little harmed. The propeller Stockman, built for the fishing trade and for a time on passenger routes, was this season converted into a brig.

*Struck by Lightning.*—A singular fatality occurred on board the schooner Fortune on the night of May 1, on Lake Erie. The crew were engaged in making sail immediately after a heavy thunder squall. John Corbett, first mate, with the crew, were at the fore halliards on one side of the mast, and Neil Duncan, second mate, was on the opposite side, also aiding in making sail. A bolt of lightning killed both mates, but the rest of the crew were unharmed. The mates were not more than three feet apart.

*Opening of Navigation.*—Navigation opened at Buffalo March 28, the propeller

Eclipse, Captain Crosby, being the first boat to leave for Toledo, arriving at that port the following day. The Welland canal did not open until April 10, although some vessels which were laid up at Port Colborne sailed from there April 4. The Sault canal was in readiness for business April 27, the steamer City of Cleveland, Capt. George Ryder, being the first boat through; the Straits of Mackinac, April 19, the propeller Prairie State, coming eastward, the first to pass through.

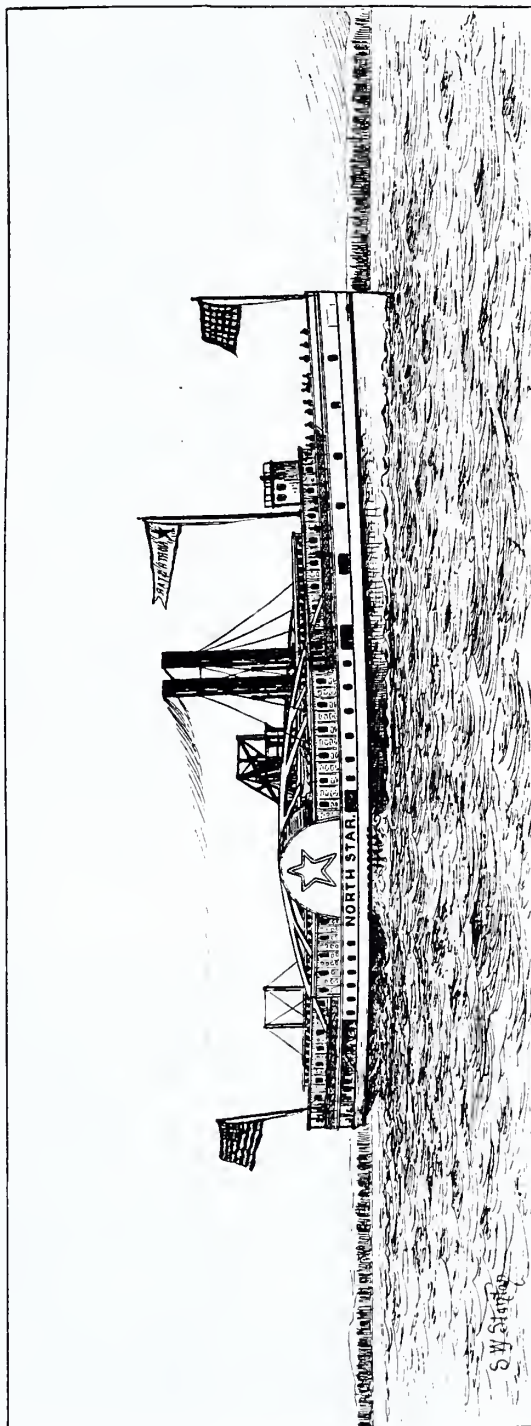
*First Iron Propeller Built.*—In 1862 the propeller Merchant was built at Buffalo, the first iron propeller on the lakes. Her iron hull was 192 feet keel measurement, and 200 feet over all, afterward lengthened 30 feet. She engaged in the freight and passenger service between Buffalo and Chicago, developing a speed of 14 miles an hour.

*Sailed for Europe.*—The schooner Sirius, laden with oil, took her departure from Detroit September 11 for Liverpool, and was wrecked at Farther Point October 20. The bark Thomas F. Park, Capt. William McLeod, departed from Detroit for Liverpool, laden with oil, October 22, but on reaching Quebec her way was obstructed by ice, and there she went into winter quarters.

*Other Events of 1862.*—The tugs Magnet and G. H. Parker conveyed from Lake Huron to Buffalo, passing Detroit September 4, a raft which contained 4,000,000 feet, and was successful throughout in the transfer. The lights of St. Clair flats were extinguished December 1, and navigation closed December 20. January 1: Propeller Montgomery leaves Buffalo for Chicago. February 22: Steamer North Star burns in Cleveland. March 29: Propeller Portsmouth fast in the ice on Lake Erie. Navigation opens between Cleveland and Detroit March 31. April: Seamen's wages \$1.00 to \$1.25 per day. Schooner North Star, sunk at Point Pelee island in the fall of 1861, raised. Propeller Mary Stewart sunk at Buffalo. Schooner Antares, first sail vessel of the season, leaves Buffalo on 9th. Schooner H. B. Hubbard sunk in Cleveland. Tug E. C. Blish sunk at De-

troit; 22, scow Hayes sunk at Sandusky. May: Brig Saxon and propeller Missouri collide and the former sunk. Propeller Euphrates sunk at Sandusky. Schooner Rapid sunk on Lake Erie by collision with the Narragansett; one life lost. June: Propeller Chicago sustains damages from collision with the wrecked tug Zouave at Lake St. Clair. July: Bark Wm. Sturgis and schooner S. H. Lathrop collide in Point Pelee passage; Lathrop sunk in seven fathoms of water. Schooner Australia capsized; Captain Jackson and crew rescued by bark Naomi. Bark Sam Ward collides with schooner Convoy on Lake Erie, sinking the latter. August: Schooner Lucy Ancharl struck by lightning near Welland canal. Propeller B. F. Bruce burned off Port Stanley on Lake Erie. Propeller Globe sunk at Buffalo. Schooner S. J. Lathrop sunk on Lake Erie, raised. Steamer Kaloolah lost at Sanguin, Lake Huron. Schooner C. C. Trowbridge sunk in St. Clair river by collision with tug Turner. September: Steamer Little Nell explodes at Saginaw City. October: Schooner Kirk White sunk. Barge St. Lawrence sunk at Buffalo. Schooner Lady of the Lake lost near Manitowoc. November: Brig Black Hawk wrecked at Point Betsey. Schooner Monarch lost near the mouth of the Sandusky bay; six lives lost. Schooner Lucy Raab a total wreck at Middle island reef. Bark Ogontz wrecked at Chicago. Schooner C. Reeve sunk by collision with the schooner Exchange at Oak Orchard.

The following craft also passed out of existence, and were total losses during the season of 1862: Steamer Bay City, formerly the Forest City, wrecked at clay banks, Lake Erie; propeller Pocahontas lost on Long Point, Lake Erie; propeller Moira sunk off the Ducks, Lake Ontario; propeller General Taylor lost at Sleeping Bear; propeller California wrecked on Mohawk reef, Lake Erie; propeller Bay State foundered in Lake Ontario, and twenty-two lives lost; tug Zouave exploded in Lake St. Clair, and four lives lost; tug Union exploded off Chicago, and three lives lost; tug Tom Cochrane, wrecked on Point Albino; bark Northern Light wrecked at Port



From "American Steam Vessels," Copyright 1895, by Smith & Stanton.

# STEAMBOAT NORTH STAR.

Built at Cleveland in 1854. Length 274 feet; 1,106 tons; splendidly furnished for Lake Superior line; speed 16 miles an hour; burned at Cleveland in 1892.





Burwell; brig Ocean Eagle wrecked at Sheboygan. The following named vessels were all schooners: Pacific lost at the Humber, Lake Ontario; Souvenir foundered in Lake Michigan, and four lives lost; Cadet foundered in Lake Erie, with loss of six lives; Zephania foundered in Lake Ontario, crew saved; Sirius wrecked at Father Point, St. Lawrence; Christiana wrecked on Lake Ontario; Flora Watson sunk by schooner H. Ross, in Lake Erie; Ontonagon wrecked near Oswego; Chief Justice Marshall wrecked near Barcelona; Post Boy lost near Dunkirk; A. Moulton wrecked in Lake Ontario; Mary Ann wrecked in Lake Ontario; Condor lost on Lake Michigan; Bridget wrecked on Long Point, Lake Erie; Helen Mar wrecked at Oak Orchard, Lake Ontario; Mary foundered in Lake Ontario, with loss of five lives; Excelsior lost at Port Stanley, Lake Erie; Huntress wrecked at Port Maitland, Lake Erie; A. Stowell lost near Sodus, Lake Ontario; Stephen A. Douglass went down in Lake Michigan. The following named vessels were all scows: Rugby lost on Lake Erie, with seven lives; Forest Chief wrecked at Cleveland; Lily lost off Vermilion, with one life.

Total loss on hull and cargo, \$1,162,173; number of disasters, 300; lives lost 154.

1863.

*Sunbeam Lost on Lake Superior.*—The steamer Sunbeam was lost in a hurricane on Lake Superior August 28, 1863, with all on board, except John Frazer, the wheelsman. She was a passenger steamer, plying between Superior and Portage lake. She left Superior August 26. The story of the sole survivor is substantially as follows: When the Sunbeam came out from Ontonagon, the wind was blowing fresh from the north. A gale struck them several hours later, the wind shifting to north-northeast. She rode the storm till next morning, when the captain attempted to put her about to face the gale, as she had become unmanageable and all hopes of reaching Copper Harbor, 24 miles east, had failed him, and as there was no harbor west that could be entered in

such a storm nearer than Bayfield. The sea was so rough that it was only occasionally they could see the steamer Michigan, less than two miles distant. Before attempting to turn around, the boat was headed two points north of east, the wind, a little east of north, striking her quarter. When they put her about she fell into the trough of the sea and rolled terribly. Unable to move her by machinery, they ran up her jib, but she failed to come up or pay away and the jib was hauled down. Her engine was in motion but doing no good. The jib was hauled up a second time to try for the shore but she could not be made to right up into the wind. About this time she careened, her pilot house lying flat with the water. She was held in that position by the gale; the successive waves beating against her with such force as to break her to pieces, and she soon filled with water, and sank. It was conjectured that the water had got between her side and her false side, waterlogging her and rendering her unmanageable.

The captain had told Frazer to stick to the wheel and do what he could to turn her if she righted again, but when Frazer saw no hopes of her coming up again, and the mad waves running over her he broke the window on the upper side of the pilot house and made his way to the small boats. Of these there were three, two lifeboats and a yawl, but one of the lifeboats had disappeared. The two remaining boats were filled with passengers and crew. Frazer got into the yawl where he had only standing room, but just then a woman, he thinks the chambermaid, begged to be taken aboard. Frazer jumped out upon a piece of the hurricane deck, and the woman was taken aboard. The self-sacrificing wheelman lashed himself to the fragment of deck with the signal halyards of the flagstaff, floating near, and soon after picked up a demijohn, which he secured with the ends of the rope.

When Frazer left the wreck the upper cabin had been swept off, and she soon after gradually settled and sank, bow downward. He thinks that there were still some passengers below. Frazer saw the yawl go down, and also saw the lifeboat upside

down, and two men lying crosswise upon it, swept out of sight. He was on the raft from 8 o'clock Friday evening until 2 o'clock Saturday afternoon. He neared the shore where the red sandstone rocks rose in an almost perpendicular cliff. The waves dashed his raft to pieces against the rocks, cutting his forehead and bruising his knees and shoulder. He fell back into the water, but the next wave dashed him against the rocks, where he caught upon a shelving projection and crawled into a small cavern. Here he remained about eight hours waiting for the wind to subside and the sea to go down. Then, weak and benumbed from cold, he crawled up on shore. He was about 35 miles above Eagle river and 12 or 15 miles from Portage, across the country. He remained on the shore till Monday afternoon, when he signaled to a party coasting along the shore in a small boat from Ontonagon, and was rescued. The crew numbered 21 persons, and there were six or eight passengers aboard. Frazer was the only survivor.

The Sunbeam was a stanch boat of 400 tons burden, built in 1861 at Manitowoc. She had five water-tight compartments, was elegantly furnished, and was a favorite with the lake-traveling public.

*Destruction of the Lewiston Suspension Bridge.*—The first suspension bridge thrown across the Niagara river at Lewiston, commenced in 1848 and completed in 1850, at a cost of \$60,000, the largest bridge of the kind in the world, and the only one in this country, was wrecked by a severe storm in 1863. Describing this incident the Lockport *Journal* said a day or two afterward: "During the day upon which the Lewiston bridge was carried off by wind, a boy whose parents resided in Canada, but who was at work in Lewiston, went over to Canada to visit his parents. Just before the bridge went down the boy proposed starting back for his place of business in Lewiston. His father accompanied him. As they reached the bridge it was swaying to and fro over the boiling waters far beneath. The boy hesitated a moment, but as this motion was not unusual he stepped upon it, his father still with

him, and proceeded to cross. They both went to about the middle, when the rapid and unusual motion of the bridge greatly increased their fear. The father turned about and the boy went on, both running at their fastest speed for the opposite shore. They had just time to reach the shore on each side before the structure was blown away." This bridge was never replaced, owing to the change of the trend of travel from the emigrant overland roads to the railroads farther south. The long cables, the graystone towers and parts of the frame construction suspended from the cables still remain, and are all that remain of this first historic suspension bridge in the United States and Canada.

*The Largest Tow.*—On July 14 the tug Kate Williams, Capt. George King, towed from Detroit to Lake Erie ten loaded vessels, which was the largest tow ever before taken from the river to the lake.

*A requisition for four tugs* was made at Chicago by the United States Government to serve on the Mississippi river and they were ordered instantly into the service. Those taken were the Little Giant, Dina, W. S. Ramsey and G. S. Sturges.

*Arrivals from Norway.*—A sloop named the Skjoldoman, from Bergen, Norway, arrived at Detroit July 14, *en route* to Chicago, and returned on her homeward voyage, passing Detroit, August 1, freighted with provisions. The barge Sleipun, also a Norwegian vessel, arrived at Detroit June 27, with 100 passengers *en route* to Chicago. She passed there on her return voyage August 23, with a cargo of wheat.

*Other Events of 1863.*—Early in the season of 1863 the brig J. G. Deshler took on a part of a cargo of copper at the Bruce mines for Liverpool, and on returning took a few staves at Detroit, and left the latter port for her ocean voyage May 27, in command of Capt. R. Stingleman. On her return she arrived at Detroit October 14, having been sold during her absence in Liverpool to Cunningham, Shaw & Co., and her name changed to Cressington. She brought back salt and pig iron. She loaded at Detroit with staves, and again sailed for Liverpool in command of Capt.



John Jennings, and on reaching salt water was never afterward heard from. The bark *Western Metropolis*, formerly the mammoth steamer of that name, passed Detroit on her first trip from Chicago with 73,000 bushels of oats and 1,000 barrels of pork, the largest cargo which up to that period had ever passed through the rivers. She was commanded by Capt. Charles P. Morey. Of the lake and ocean vessels the bark *Ravenna*, Captain Marlotte, made two voyages to Liverpool during the season of 1863. Her first departure from Detroit was on June 2, freighted with copper and staves. She arrived back at Detroit September 14 with salt, and sailed oceanward again four days later loaded with staves. The experiment was unprecedented. The whole number of vessels employed on the lakes during the navigation of 1863 may be classified as follows: Side-wheel steamers 135; propellers and tugs 258; barks 195; brigs 80; schooners 1,040; sloops and barges 62, total 1,770. The navigation of 1863 commenced at Detroit February 28, the steamer *Clara* arriving at Detroit on that date, and on March 26 the propeller *Dubuque* arrived at Detroit from Buffalo *via* Cleveland. The steamer *May Queen* left for Detroit March 27, going by way of the south passage and returning the day following by the north passage. The propeller *New York* left Buffalo March 27 for Toledo, arriving there on the 29th. The schooner *Traveler* arrived at Detroit from the Welland canal April 5, on which date navigation was free and unobstructed on either shore of Lake Erie. The Straits of Mackinac were clear April 19, the propeller *Maine*, bound eastward, the first through, and the propeller *Buckeye* on same date, bound westward. The propeller *Mineral Rock*, Capt. Thomas Wilson, passed through the Sault canal into Lake Superior April 28, the first boat of the season. In 1863, the loss of property on the lakes was \$1,480,000, and of lives 123. February: Propeller *Dubuque* leaves Buffalo for Detroit; schooner *Ellen Pike* wrecked on Lake Michigan. March: Five hundred and fifty men employed in Cleveland at ship building; 27, navigation opens at

Dunkirk, New York. April: Steamers *Western World* and *Mississippi* converted into sailing craft; engines sold to New York parties for steamers being built for the Emperor of China; schooner *Island City* first vessel through river St. Clair this season; *Morning Star* and *May Queen* fast in the ice on Lake Erie. May: Schooner *Isabella*, of Toronto, struck by lightning on Lake Erie, and sustained several injuries; boiler of propeller *Tioga* explodes; two men killed and three wounded; scow *P. J. Peris* wrecked at Rondeau in a severe storm. July: Schooner *Mary A. Hulburt* sold to the government for \$2,700. August: Schooner *Fleet Wing* capsized on Lake Ontario; three lives lost. One of the most terrific storms ever experienced on Lake Huron; 21, bark *Col. H. S. Fairchilds*, schooners *S. E. Hudson* and *Nightingale*, and brig *Saxon* suffer by the storm. The steamer *Zimmerman* was burned at Niagara, and two of the crew were burned to death. Schooner *Matt Root* sunk on Lake Michigan during a storm. Steamer *Buckeye*, sunk in Detroit river, raised. Barge *Queen City* goes to pieces near Point aux Barques. Steamer *Planet* foundered on Lake Superior near Eagle river; thirty-five lives lost. September: Propeller *Detroit* sunk in Saginaw bay. October: Steamer *Olean*, owned by the Erie R. R. Co., sunk in Dunkirk harbor. Propeller *Eclipse* and schooner *Hudson* collide near Buffalo, resulting in sinking of the latter. November: Bark *Torrent* sunk near Port Stanley; insured for \$10,000. Propeller *Vermont* sunk by collision with the propeller *Marquette*. Bark *Parana* wrecked near Saginaw bay.

The following craft also passed out of existence in 1863: Steamer *Fox* burned at Newport, St. Clair river. Propeller *Waterwitch* foundered in Lake Huron; twenty-eight lives lost. Tug *Phoenix* burned on Lake Ontario. Tug *St. Mary* burned at Grand Haven, Lake Michigan. Bark *Success* foundered in Lake Michigan and ten lives lost. Bark *B. S. Shephard* wrecked at Point Pelee; \$30,000. Bark *E. S. Adams* sunk by bark *Constitution*, Lake Erie; one

life lost. Bark Colorado wrecked on Racine point, Lake Michigan. Bark Adriatic sunk by bark Two Fannies in Lake Huron. Sloop Messenger wrecked on Bar point, Lake Erie. Scow Granger wrecked at Sandusky. Barge Sultana lost on Lake Huron.

The following named vessels were all schooners: Farmer lost on Lake Michigan. Lady Jane wrecked on Big Point au Sable, Lake Michigan. W. H. Stevens lost on Lake Huron. Sarah E. Hudson sunk by propeller Eclipse, Lake Erie; one life lost. Cairo lost on Lake Michigan. Dan Slauson wrecked on Pilot island. Crevola wrecked at Port Bruce, Lake Erie. Kate Norton foundered in Lake Erie; eight lives lost. Major Anderson lost in Lake Michigan. Eliza Wilson wrecked near Toronto. Return wrecked on Long point, Lake Erie. Gulielma wrecked on Buffalo piers. Rebecca Foster wrecked on Long point. Henry Norton wrecked on Pilot island. George Davis wrecked at Port Burwell. Arian burned in Welland canal. Syracuse sunk off Forty Mile point. Frank Stewart wrecked at Oswego. Bay of Quinte wrecked on Lake Ontario. Annie C. Raynor wrecked on Lake Huron. Alliance wrecked at Oswego.

Total losses on hull and cargo \$2,600,-517; number of lives lost, 123; whole number of disasters, 310.

1864.

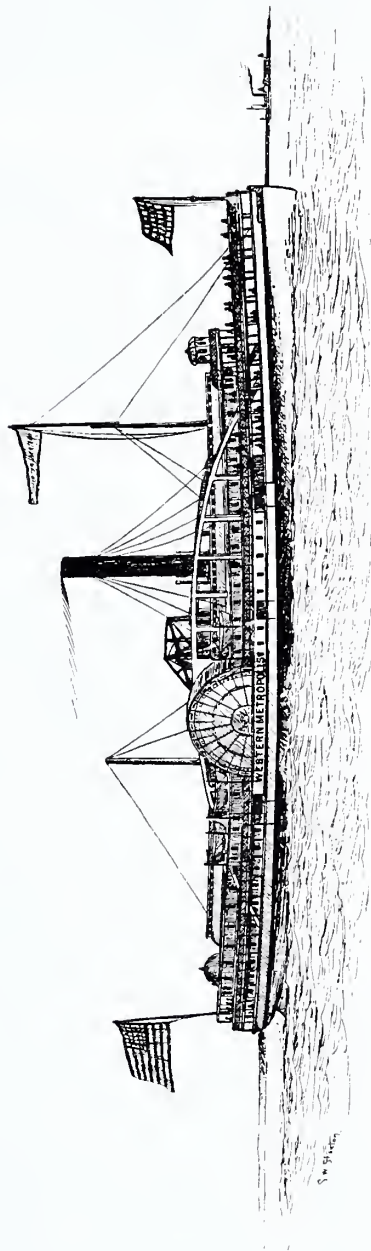
*Johnson Island Conspiracy.*—An interesting war incident on the Great Lakes, in 1864, was the capture of the steamer Philo Parsons and of the Island Queen by Confederates, and the attempted capture of the United States steamship Michigan. A plot had been formed to liberate 3,200 Confederate officers imprisoned on Johnson island, Sandusky bay. While the Parsons was making her regular trip between Sandusky and Detroit, Confederate passengers, led by Major C. H. Cole, a Confederate spy, compelled the officers and crew to surrender. Cole then headed the boat for Put-in-Bay. Lying at the wharf at Put-in-Bay was the steamer Island Queen, bound for Cleveland, with 300 unarmed soldiers aboard on their

way to be mustered out. Quickly running along side the Parsons made fast and captured her. The two vessels were steered to Fighting island, where the soldiers were compelled to land. The boats then steamed rapidly for Sandusky, and when within a short distance of the Michigan, then on guard duty at Johnson island, Cole, who was known to the officers of the Michigan as a wealthy oil speculator of Sandusky, and who had arranged to dine aboard the Michigan, was rowed to her in a small boat in order to keep his engagement. His plan was to drug the wine, and by the aid of Confederates seize the ship. Just as he was about to attempt the seizure the plot was discovered through the betrayal of the plans by a Colonel Johnson, who had on the wharf at Malden, where the Parsons had stopped, dropped a note, outlining the plans. Cole was arrested aboard the Michigan. John Y. Beale, a Confederate left in charge of the Island Queen, when he learned of the turn of affairs, scuttled her in sight of the Michigan, and ran the Parsons over to the Canadian shore, where she was sunk. Beale was executed on Governor's island, N. Y., February 24, 1865. Cole was condemned, but escaped a similar fate through subsequent pardon.

*Casualties of 1864.*—During the navigation of 1864 there were 599 marine casualties on the northern lakes, involving a loss on hull and cargo amounting to \$654,100. Of this number eight were caused by explosion, seven capsized, 123 went ashore, 151 sprung a leak, four suffered by fire, 202 damaged in hull and outfit, nine foundered, 47 collided and 45 passed out of existence.

*Lake Freights Improve.*—There was an improvement in lake freights over the previous season, with an average ruling of 9 cents on wheat, and the highest rates on that cereal, 18 cents. The gradual improvements in freights occasioned the construction of quite a number of lake carriers.

*The bark Western Metropolis* was this year lost on Lake Michigan. She was formerly the side-wheel steamer of the same name, built at Buffalo in 1856, to run be-



From "American Steam Vessels," Copyright 1895, by Smith & Stanton.

#### STEAMBOAT WESTERN METROPOLIS.

Built at Buffalo in 1856. Length 340 feet; tonnage 1,860; one beam engine, cylinder 76 inches diameter; 12 feet stroke; easily made 21 miles an hour between Buffalo and Toledo; made a bark in 1862, carrying 5,000 yards of canvas, and never beaten by any sail craft; lost on Lake Michigan in 1864.





tween Buffalo and Toledo in connection with the Michigan Southern & Northern Indiana railroad. In 1862 she was dismantled and made a bark. As such she was able to carry 65,000 bushels of grain, and with her 5,000 yards of canvas could outsail anything then on the lakes.

*Other Events of 1864.*—March 2: Navigation opens at Sandusky; 18, navigation between Detroit and Port Huron unobstructed; 29, navigation open between Detroit and Cleveland. April 13: Opening of Welland canal for the season; 23, navigation open at the Straits of Mackinac; 25, brig Seminole and schooner Tartar collide at Toledo. May 10: Terrific gale on Lake Michigan; 14, propeller Nile a total wreck at Detroit, caused by the explosion of her boilers, six lives lost; money loss, \$45,000. June: Propeller Prairie State sunk on Lake Erie. Scow Phoenix sunk at Avon Point. July: Side-wheel steamer Seabird, sunk near Milwaukee last November, raised at an expense of \$10,000. Schooner Star wrecked near Conneaut. Bark D. M. Foster and schooner Oneida Chief collide in St. Clair river. August: Propeller Mears burned on Lake Michigan. Propeller Racine lost at Point Pelee, twelve lives lost; insured for \$25,000; raised and towed to Buffalo September 5. Schooner Storm Spirit sunk on Lake Huron by collision with the bark City of Milwaukee. Bark Chenango and propeller Wenona collide on Lake Huron. Schooner Mayflower capsizes off Black River, Ohio; eight lives lost. Tug General Lyon sunk at Point Pelee. September: Propeller Scotia sunk on Lake Erie near Dunkirk by collision with the propeller Arctic; nine lives lost. Schooner E. C. Blish lost at the Lake Huron fisheries with all on board. Brig Sultan sunk off Euclid on Lake Erie; seven lives lost. Propeller Ogdensburg sunk on Lake Erie by collision with schooner Snowbird. October: Propeller Montgomery collides with schooner T. Y. Avery, near Skillingalee. Steamer Northern Light collides with scow N. G., resulting in serious damage to the latter. Tug Winslow disabled and dashed against the piers in Cleveland, proving a

total loss; five lives lost. Brig Iroquois ashore on Lake Huron. Bark Fontanille raised and brought into port at Cleveland. Bark Danube and schooner Arab collide near Erie. Propeller Kenosha burned at Sarnia. Scow Ida H. Bloom capsizes on Lake Erie. November: Steamer Cleveland wrecked at Two Hearts river, Lake Superior. Schooner Almeda sunk at Buffalo. Schooner James Coleman totally wrecked on Poplar Point, Lake Ontario. Schooner Ketchum sunk at Milwaukee. Steamer Geo. Moffatt sunk at Presque Isle bay. Schooner Geo. Wilson went to pieces on Lake Ontario. December: Schooner C. G. Alvord released from a reef by tug Mayflower, but immediately sunk. Canadian schooner Mountaineer ashore at Georgian Bay; vessel a total loss. Canadian Government authorizes O. Bartley of Windsor, Ont., to make a survey of Bois Blanc island with a view to constructing defenses.

Other losses of the season were as follows: Steamer Pontiac exploded at Grand Haven and three lives lost. Steamer Almighty wrecked on Long point. Steamer Alexander burned on Lake Ontario. Tug Winslow wrecked at Cleveland and five lives lost. Bark Mojave foundered in Lake Michigan and ten lives lost. Bark B. A. Stannard wrecked at Point Betsey. Brig Amazon wrecked at Point Edward. Brig Mohawk sunk by a tug in Lake Erie.

The following named vessels were all schooners: Horace Greeley wrecked at St. Joseph. Emma Jane foundered in Lake Erie and seven lives lost. Storm lost on Lake Michigan with one life. Union wrecked near Milwaukee. A. B. Williams foundered in Lake Huron. Storm Spirit sunk by collision in Lake Huron. Mayflower foundered in Lake Erie and eight lives were lost. Opechee foundered in Lake Erie with loss of six lives. Isabella wrecked on Lake Huron. Cattaraugus foundered in Lake Ontario. Comely wrecked at Point Albino. James Coleman wrecked on Lake Ontario. A. J. Rich wrecked at Kincardine. Forwarder wrecked at Kincardine. Amelia wrecked near Goderich. Altair wrecked at Chantry island. Queen City

wrecked near Marquette. Fortune wrecked on Lake Huron. J. C. Wheeler lost on Lake Ontario. Experiment wrecked at Manitowoc. Carrier Dove lost on Lake Ontario. Sardinia wrecked at Oswego. Jennie Lind wrecked on Long point, Lake Erie. Belle lost at Long point. Newark lost on Lake Huron. Perseverance sunk by schooner Grey Eagle in the straits.

### 1865

*Loss of the Pewabic.*—The most serious disaster of the season of 1865 was the loss of the propeller Pewabic August 9, by collision with the propeller Meteor, both of the Lake Superior line. The Pewabic was bound down, laden with a valuable cargo of copper. She had a large passenger list. The accident occurred on Lake Huron, about six miles off Thunder bay light. It was about 8:30 o'clock in the evening, and twilight still lingered over the lake. The approaching vessels saw each other when miles apart. They kept their course until near each other, when the Pewabic put her helm aport, and had just commenced to swing when she was struck in the vicinity of the pilot house by the Meteor, cutting her down to the water's edge. A number of men were killed in the terrible crash, both vessels going at full speed.

Confusion followed aboard both vessels. The Pewabic had on board about 175 passengers. Many were below, but others were forward to see the Meteor pass. When it became evident that a collision was inevitable they ran for safety to the after part of the vessel. Before the vessels separated a few of the passengers on the ill-fated Pewabic jumped aboard the Meteor. Captain McKay of the Pewabic remained cool and collected, doing his utmost to save the passengers by preventing a panic. The boats were at once lowered, but within five minutes of the crash the Pewabic went down. Captain McKay was one of the last upon the wreck. Many had thrown themselves overboard, and others were still below when the heavily laden vessel disappeared from sight. The boats of the Meteor were lowered and Captain Wilson and his crew picked up many of the men, women and

children struggling in the water. As the Pewabic went down her hurricane deck was forced up and floated upon the water with pieces of wreckage of all kinds. The Meteor remained in the vicinity all night, and in the morning signaled the passing propeller Mohawk, which came alongside and took the survivors to Detroit. The loss of life was about seventy.

The Meteor was slightly injured, but proceeded on her way to the Sault. There fire was discovered in her hold, caused by the wetting of a quantity of lime which she carried as freight. To save her from total loss by fire she was scuttled and sunk in the pool of the upper lock of the canal. The Pewabic had come out at Cleveland in October, 1863, and was valued at about \$100,000.

This collision was ruinous to the owners of the vessels. In a letter to the *Marine Review* John M. Croneweth, of Detroit, said: "J. T. Whiting & Co. were among pioneers in vessel business of Lake Superior. In the early sixties they controlled about two-thirds of this trade. In those days all contracts ended on the first of October, and for the balance of the fall vessels could charge what they saw fit. I have seen \$22 a ton paid for carrying copper from Ontonagon to Detroit, and \$6 a ton paid as freight on pig iron from Marquette to Detroit. On our way up the estimated value of every square foot of room was \$1, and there was always enough freight left on dock when we were leaving to load another boat. Often the mate would have a \$10 bill slipped into his hand by an anxious shipper who wanted a jag of freight moved at once and would not wait for the next boat. But the ups and downs of life were with us then as now, and the steamboat business lacked stability. Take the case of J. T. Whiting & Co. In the spring of 1863 they owned seven boats, namely, the steamer Illinois and propellers Meteor, Pewabic, Detroit, Mineral Rock, Gen. Taylor and Skylark. Not needing all of them, they sold the Detroit, Gen. Taylor and Skylark, and during the summer they laid up the Mineral Rock for a rebuild. A short time before the Meteor-Pewabic collision, the



Illinois broke down and made a complete wreck of her engine. Then, with the Pewabic sunk and the Meteor tied up, the company was without a single vessel. They were forced to charter vessels to fulfill their contracts, and as a result of the collision the firm was practically ruined. \* \* \*

"Among officers of the Pewabic who were lost was Mr. Jackson, the chief engineer. His young wife, who was making a trip with him, was also lost. He was a noble fellow, a good engineer, and he had many friends. No doubt, he might have saved himself had he made the effort, but he stood at his post of duty like a true 'knight of the throttle' and went down with the ship, his wife with him. He died as he had lived, unselfish to the end. In early days of steamboats on the lakes it was customary, when boats were meeting in the day time (not at night) to check down and pass close together, so as to give an opportunity to throw a bundle of newspapers from one to the other. At this particular period, during the late internal war, passengers were particularly anxious to get war news from the papers. There were no railroads and no telegraph connections, even with the upper Michigan peninsula."

*Freight Rates Remunerative.*—The lake navigation of 1865 was fairly remunerative, freight ruling at good figures throughout the season, the lowest on wheat, Chicago to Buffalo, was six cents, and the highest 19 cents. Business commenced at the usual period, with but limited new tonnage. In consequence of the boom in freights in 1865 early in the season and its continuance later on, there was considerable activity in the exchange of vessel property. But, notwithstanding the high freight rates prevailing during the season, many lake vessels entered the foreign trade.

*Many Disasters.*—There were 421 disasters during the season on all the lakes and rivers, distributed as follows: Lake Michigan, 107; Lake Huron, including Georgian Bay, the Straits and St. Clair river, 98; Lake Superior, 12; Lake Erie, including Detroit river and the Welland canal, 134; Lake St. Clair, 22; Lake Ontario, 48. The total loss on hull and cargo were

not estimated, though netting upward of \$1,300,000.

*Fast Sailing.*—Special mention is made of some fast sailing. Tugs, in quest of tows, did not then extend their visits far outside the rivers, and vessels oftener than otherwise neared the rivers before throwing out the tow line; it accordingly behooved every captain to make time with his competitors, or he would soon be displaced.

Among the quick trips was that of the schooner Bonnie Doon, a fore-and-aft rig. This vessel made the passage from Milwaukee to Detroit in 56 hours, sailing the entire distance to the St. Clair river, where a tug met her soon after entering.

She started on her voyage from Milwaukee in the afternoon at about 3 o'clock, at which time the owners telegraphed to Detroit, to be advised of her passing that point, as one of them wished to meet her at Buffalo, and in this manner facts were learned. It was afterward learned that she had a wholesale breeze the entire distance, and did not have occasion to make or shorten sail while *en route*.

*Other Events of 1865.*—March 19: Navigation opened in Cleveland, by the arrival of schooner W. L. Manning. June 24: Brig Canapus, 386 tons, sunk on Lake Erie by collision with the bark Republic. July: Schooner Illinois, 110 tons, sunk on Lake Erie near Vermilion, and abandoned. Barge Empire breaks in two during a storm off Buffalo. Tug Samson totally destroyed by fire at Bar Point, Lake Erie. A new sailing vessel, named the Jacques de Molay, arrived in Toronto, one of the finest vessels that has ever appeared on Lake Ontario. She was 148 feet long and 600 tons burden. She was built in Liverpool, and was the first of the Templar line of packets, to run from Liverpool to the northwestern lakes. August: Steamer Traveller, 603 tons, burned on Lake Superior; cargo a total loss. September: Tug Stockton destroyed by fire at Bear Creek. Schooner Chas. Y. Richmond sunk in Cleveland harbor. Schooners Eclipse, B. F. Davy, Ketchum, and Ethan Allen sustain damage from collision on the Flats. Steamer Buckeye strikes a rock near Brockville in the St. Lawrence river, and sinks in

70 feet of water. Schooner Wm. O. Brown, 400 tons, and bark A. P. Nichols collide at Bar Point, Lake Erie; the Brown is sunk in 24 feet of water. October: Scow Lake City sunk in Detroit river. Schooner Rambler, of Chicago, 137 tons, driven on Cooley's pier on Lake Michigan; total wreck. Schooner Genoa sunk at Erie, a total loss. A new harbor called Lac La Belle opened on Lake Superior. One of the severest storms on Lake Erie in memory of old lake men. Schooner Garibaldi lost on Georgian Bay; four persons drowned. Propeller Marquette sunk at Bear Point. November: Schooner Algerine sunk at Port Colborne, Lake Erie. Propeller Mineral Rock sunk at Ottawa Harbor. Schooner Wanderer sunk at Port Stanley. Propeller Her Majesty sunk at Port Colborne. Bark J. P. Mack sunk at Port Bruce, on Lake Erie. Schooner Alvin Bronson sunk at Oswego. Brig Standish and bark S. V. R. Watson collide off Point Wawgochance. Propeller May Flower sunk at Detroit. Schooner Driver went to pieces on Lake Michigan. Tug Volunteer's boiler exploded. Tug Pilot burned at Algonac. Schooner Flight, 249 tons, abandoned at Bois Blanc island. Propeller Dunkirk and schooner C. Amsden collide near Malden. Schooner Fish Hawk went to pieces at Sheboygan. Scow L. P. Fortier, 167 tons, wrecked near Grand Haven; five lives lost. December 4: Schooner Knight Templar sunk on the Flats. Propeller Magnet sunk at Cornwall at the head of Long Sault, St. Lawrence river. Other losses for the season were as follows: Steamer J. P. Ward, 160 tons, burned at Bay City; steamer Wattertown, 222 tons, burned at Cape Vincent; steamer Canada, 165 tons, wrecked at Bar Point; propeller Illinois, 525 tons, wrecked at Point Pelee; propeller Brockville, 398 tons, wrecked in Lake Michigan; tug P. F. Barton, 40 tons, burned on the St. Clair river; tug F. Spafford, 35 tons, exploded at Chicago; tug Monitor, 40 tons, burned at Muskegon; bark S. A. Marsh, 340 tons, wrecked at Port Maitland, Lake Erie; brig Ocean, 240 tons, wrecked on Lake Huron; brig R. Hollister, 273 tons, wrecked near Chicago.

The following named were all schoon-

ers: Whip, 40 tons, wrecked at St. Joseph. L. D. Cowan, 165 tons, wrecked at Point aux Barques. Fremont, 288 tons, sunk by bark American Union, Lake Michigan. Mary Frances, 157 tons, wrecked at Rondeau. Frederick, 61 tons, foundered in Lake Michigan. Susquehanna, 270 tons, sunk off Conneaut. Willard Johnson, 400 tons, wrecked at Point aux Barques. Eugenie, 38 tons, wrecked on Peche island. Lochiel, 223 tons, foundered in Lake Ontario. Triumph, 120 tons, wrecked near Chicago. Lewis Cass, 191 tons, wrecked at Bailey's Harbor. W. O. Brown, 400 tons, sunk by bark A. B. Nicols in Lake Erie. Homeward Bound, 106 tons, wrecked on Lake Ontario. Frontenac, 152 tons, wrecked at Port Burwell. Palmetto, 240 tons, wrecked on Lake Huron. Rambler wrecked on Lake Michigan. H. L. Lansing, 364 tons, wrecked near Chicago. Cornwall, 148 tons, wrecked on East Sister. Flight wrecked in the Straits. Fancy, 143 tons, wrecked on Lake Michigan. International, 389 tons, wrecked on Lake Ontario. Heligoland, 84 tons, wrecked at Muskegon. Mary, 94 tons, wrecked at same place. Lillie Danay, 120 tons, wrecked at Kincardine.

1866.

*A Craze for Lake Craft.*—Grain freight rates throughout the season were the best ever recorded, wheat ruling at the commencement, from Chicago to Buffalo at 12 cents, and gradually advancing to 23 cents, while other commodities were proportionately high. As a consequence there was a good demand for all classes of floating craft, which amounted to a craze. Many mortgaged their homesteads to secure a timberhead of anything afloat. During the season 11 side-wheel steamers, 24 propellers, 33 tugs, 16 barks, 15 brigs and 158 schooners changed ownership, some at fabulous prices. There were 71 new vessels commissioned during the season, as follows: Twelve side-wheel steamers with a total of 8,043 tons; six propellers, 6,900 tons; six tugs, 420 tons; 19 barques, 1,006 tons; and 48 schooners, 14,170 tons, making a grand total of 35,539 tons.



*High Speed Enjoined.*—Owing to the high freights prevailing during the season of 1866, vessel masters were enjoined to make all possible dispatch in getting around with their respective craft, and these orders were carried out with a uniformity never previously recorded. There was seldom an arrival in any port, in case any thing speedy had been accomplished, that was not set forth in nearly all the papers.

*Tugs Engaged in Towing.*—There were 23 tugs engaged in towing through the rivers and lakes, proceeding down on Lake Erie to Point Pelee, and on Lake Huron, a distance of about 60 miles, to Sand Beach.

*Fenian Invasion of Canada.*—Early on the morning of June 1, 1866, the City of Toronto left her moorings in Toronto, for Port Colborne, having on board a regiment of volunteers who were suddenly called to arms for the purpose of defending the Province against an invasion from United States territory by the Fenians. On June 5, 120 sailors from H. M. S. Aurora arrived in Toronto by Grand Trunk railway from Quebec. A portion of them took possession of the steamer Magnet, which by order of the Canadian Government was being fitted up as an armed cruiser. The gunboat Heron, intended for service on Lake Ontario, arrived from the East. She was a trim little craft, and carried two 112-pound Armstrong guns. She was stationed at Port Dalhousie. Other movements on the lakes were made about this time, but as the invasion was soon quelled and put an end to, quiet was very speedily restored.

*Other Events of 1866.*—March: Navigation opened March 2, between Detroit and Malden, when the propeller Clara commenced plying. Steamer May Queen commenced to ply on Green bay, and burned at Milwaukee after 13 years service. April: Heavy northeast gale, April 23, and much damage done to shipping. Steamer Windsor burned at Detroit, and 30 lives lost. May: A tug association was formed at Detroit; schooner Argo goes to pieces near Chicago; schooner Wings of the Wind sunk by collision with bark Baldwin near Chicago; heavy northwest gale, May 26, with

much damage to shipping. June: Schooner Ellen M. Baxter departed from Toledo for Boston, Mass., June 4, with a cargo of walnut; bark Thermutis arrived at Detroit from Liverpool with merchandise; bark Viralite arrives at Detroit from Liverpool with merchandise; bark Jennie P. King was wrecked on Long Point, Lake Erie, and 14 lives lost; the United States revenue steamers W. P. Fessenden and Commodore Perry had a trial of speed from Cleveland to Detroit, and the former arrived 45 minutes ahead; the United States revenue steamers W. P. Fessenden and John Sherman exchanged names at Detroit; scow A. Howes capsizes on Lake Erie; terrific storm on Lake Erie; schooner Alice Grover wrecked off Cleveland, one life lost; bark Arabian sunk on Lake Erie, four lives lost; propeller Cuyahoga sunk at Sarnia; brig C. P. Williams sunk in Cleveland; brig Sarah C. Walbridge wrecked at Euclid Creek, Lake Erie; schooner Rosina ashore at Madison, Lake Erie; schooner Josephine capsized off Fairport; schooner J. M. Lee lost near Buffalo; tug Red Jacket explodes and sinks at Chicago; propeller Cleveland sunk by collision off Bar Point. July: The schooner Saranac, Captain Wraight, arrived at Detroit from Liverpool *en route* to Chicago. Brig Vidar arrived at Detroit from Norway, *en route* for Chicago. The schooner Coquette foundered with all hands on Lake Michigan. Propeller City of Buffalo, formerly a side-wheel boat, was burned at Buffalo after nine years' service. Bark Jacques de Molay, Capt. D. M. Tucker, arrived at Detroit from Liverpool with merchandise. Schooner Oliver Culver collides with the schooner Clayton Belle, of Clayton. Schooner Wild Rover sunk off Brockville. Schooner Dan Marble sunk on St. Clair river. August: Schooner Nonpareil ashore at Middle island, Lake Huron, and abandoned. Scow Lone Star a total wreck on the shore of Lake Erie, near Conneaut. Bark Etowah arrived at Detroit from Liverpool with merchandise. Schooner Ringgold, a wrecking vessel, arrived at Detroit from Pawgassett, Mass. Schooner Saranac departed from Detroit for Liverpool with 450 tons of iron ore from Bruce mines. British



gunboat Britomarte arrived at Windsor, Ontario, from Liverpool. Bark Jacques de Molay left Detroit for Liverpool with a cargo of copper. Schooner Geo. C. Drew went to pieces at Charity islands, Saginaw bay. September: Schooner Junius, of Oswego, sunk at Long Point, Ontario. October: Schooner George Goble damaged by collision with the Wm. Crosswright at the Flats. Revenue cutter John A. Dix ashore on Lake Superior. A heavy northwest gale of three days' duration on all the lakes began Oct. 22, resulting in much damage to shipping and great loss of life. The schooner Alma with all hands foundered in Lake Erie. Propeller Trader exploded on Lake Huron and three persons were killed. Propeller Mary Stewart, 442 tons, was wrecked at Grand Haven. November: Schooner Darien lost on Lake Erie; several members of the crew perished. Propeller F. W. Backus, 289 tons, was burned at Racine, Wis., after 20 years' service. Schooner Mary Ballard, Capt. John Coyne, foundered in Lake Ontario and nine lives were lost. Propeller Mary total wreck on the eastern shore of Lake Michigan. Scow N. G. lost in Pigeon bay, during a storm. Propeller Lac La Belle collides with the steamer Milwaukee near the Flats, resulting in the sinking of the former; two lives lost. Barges Experiment and Sheridan lost on Lake Huron. December 9: Schooner Garry Owen sunk with all hands near Port Colborne; 26, Tug T. W. Notter sunk in Cleveland.

Other casualties of the season were as follows: Steamer Forest Queen dismantled and made a barge; steamer Planet dismantled at Manitowoc; steamer R. R. Elliott dismantled at Detroit; steamer Ranger lost near Port Stanley, Lake Erie; steamer Clifton dismantled at Owen Sound; propeller City of Buffalo burned at Buffalo; tug O'Brien exploded in Niagara river; bark Ocean Wave wrecked in Green bay; bark Great West wrecked on Racine reef; bark John Sweeney wrecked at Muskegon; brig E. W. Cross wrecked at Chicago; brig Alex. Mitchell lost in a gale on Lake Michigan; scow Pacific wrecked at Port Burwell; barge Ark wrecked on Lake Huron, and four lives lost. The following named vessels were

all schooners. L. C. Butts, No. 1, wrecked at Forest bay, Lake Huron; Elm City burned at Erie; Thilena Mills wrecked below Cleveland, and three lives lost; Autocrat sunk by collision in Lake Michigan; America lost on Lake Michigan; Elmira lost on Lake Ontario; George C. Drew wrecked on Charity island, Lake Huron; Puritan wrecked on Buffalo breakwater; M. S. Scott wrecked at Racine; Hiawatha sunk by collision in Lake Michigan; Louisa wrecked at Big Sodus, Lake Ontario; Roanoke wrecked at Pentwater, Lake Michigan; Pioneer wrecked near Grand Haven, Lake Michigan; O. V. Brainard wrecked at Port Hope, Lake Ontario; Bay Queen wrecked at Port Colborne; Tom Wrong wrecked at Port Burwell.

There were 621 disasters on the lakes during the season of 1866. The losses on hull and cargo, however, were not definitely computed, although varying not far from \$1,300,000; the loss of life was 175.

1867.

*Shipbuilding active.*—Throughout the season of 1867 lake freights were not discouraging, the average on wheat being 6 cents, 8 cents, and the highest, 15 cents, and although the times had not improved since the rush of 1865, there were not a few who felt hopeful of a repetition of the former scenes, and to this end shipbuilding, with a large increase of tonnage, began during the early winter of the year, and, ere navigation had fairly resumed, 14 propellers, 16 barkentines and 69 schooners were ready to float; beside nine tugs.

*Successful Voyage Through Niagara Rapids.*—In 1867 the new Maid of the Mist, which had been built in 1854, and could not be made a success financially, was sold for about half her cost to be delivered in Niagara, opposite Fort Niagara. Joel R. Robinson, her captain, undertook to pilot the vessel down the river, and a large number of persons collected on the banks to witness the attempt to pass through the rapids. She started on her dangerous voyage June 15, 1867, and her smoke stack was carried away almost immediately. She listed badly in the beginning of her voyage,

and after reaching the whirlpool she showed an even keel, and thus this first voyage through the rapids was successfully made.

Only two European voyages were made this season by lake vessels. The bark *Celia*, Captain Hunter, sailed from Toronto for Liverpool, April 16, with a cargo of plaster; the schooner *Naragansett*, Captain Murphy, November 6, with petroleum. The schooners *Chenango* and *Dreadnaught* were also chartered, but did not depart.

*Disasters During 1867.*—Nine hundred and thirty-one disasters were reported during year of navigation on the lakes, and 211 lives lost. Total tonnage, 13,344 tons; total valuation, \$675,000.

*Burned on the St. Lawrence.*—The steamer *Wisconsin* burned on the evening of May 21, on the St. Lawrence river, six miles from Grenadier island, with a loss of life reaching 23 or more. When the fire was discovered the boats were gotten ready, and the vessel was headed for the shore. Considerable confusion existed. The *Wisconsin* had about 70 passengers aboard. She was the property of the Northern Transportation Company, and plied on Lakes Ontario and Erie, touching at Ogdensburg, Oswego, Cape Vincent, Cleveland, Toledo and Detroit. She was built in 1852, and was of 352 tons burden.

*Other Events of 1867.*—February 23: Navigation opened between Detroit and Amherstburg, the steamer *Pearl* plying. March 25: Navigation opened on the Saginaw river; 26, steamer *Sea Bird* commenced plying on Lake Michigan. April 8: Navigation opens between Detroit and Cleveland by arrival in Cleveland of the steamer *Morning Star*; 17, scow *Reindeer* capsized on Lake St. Clair, sustaining injuries by which she sank near Hog island. Navigation opens to Chicago April 22d. Schooner *Antares* sunk near Manistee. Schooner *Helen Kent*, 144 tons, ashore and abandoned at Brown's Pier, Mich. Severe storm on Lake Huron April 25th. Schooner *Hope*, of Sheboygan, sunk on Lake Huron. Schooner *Merrimac* No. 2, 269 tons, foundered off Long point, Lake Erie; five men drowned. May 1: Ship carpenters and caulkers receive \$4.50 per day at Chicago for eight hours'

work; 5, Buffalo harbor blockaded with ice for several days and a large fleet delayed outside; 9, second opening of Buffalo harbor and vessels departed; 21, heavy north-east gale throughout the lake region with much loss to shipping; schooners *M. F. Merrick* and *Wellington* collide in straits of Mackinac. June: Tug *Tempest* arrived at Detroit from Philadelphia. Steamer *Admiral Porter* passed up from the seaboard. Steamer *Washington* passed Detroit *en route* to Lake Michigan from the seaboard. Tug *Relief* exploded on Saginaw river. Tug *Waters W. Brayman* burned at Point Pelee; a total loss. July: Brig *Orkney Lass*, lost on Lake Erie with all hands. Tug *Balize*, formerly the *Mary Grandy*, arrived at Detroit from New York City. Tug *H. Johnson* exploded on the Saginaw river, and four persons were killed. The U. S. lighthouse steamer *Haze* arrived at Detroit from New York for lake service. Propeller *Gen. E. H. Paine* passed Detroit *en route* to Lake Michigan from New York City. August: Tug *Dispatch*, burned at Sandusky. Propeller *Granite State* damaged by collision on Lake Erie. Bark *Mary Stockton* sunk in Cleveland harbor. Propeller *Magnet* sunk by collision with steamer *Bay State* in Lake Ontario. September: Schooner *Yankee Blade* sunk in St. Clair river. Propeller *Saginaw* and bark *Oneonta* collide off Clay Banks. Tug *Clematis*, formerly the *Mary Love*, arrived at Detroit from New York City. Tug *W. R. Muir* exploded in the St. Clair river, killing seven. Schooner *Light Guard* with 19,902 bushels of wheat passed through the Welland canal, the largest cargo on record; 26, violent north-east gale throughout the lake region. October: Schooner *Sacramento*, of Cleveland, wrecked at Gull island reef. Bark *Portsmouth* and scow *Frankie Wilcox* collide at Point Pelee, resulting in damage to both. Propeller *Oswego* and schooner *Grace Murray* collide at Cleveland, resulting in slight damage to each. Scow *Free Mason* capsizes and sinks in Detroit river; three lives lost. Schooner *Mary Elizabeth*, 187 tons, foundered in Lake Erie, and all hands, seven in number, lost. November: Propeller *Acme*, 762 tons, of Northern



Transportation Co. line, sunk near Dunkirk. Brig General Worth, wrecked off Barcelona; 3, schooner Admiral, 167 tons, went to pieces near Toronto, during a storm. Brig St. Joseph collides with the barge Alpha in the St. Clair river, resulting in damage to the latter. Schooner W. B. Hibbard, ashore at Southampton, Ont., total loss. Propeller Oswego wrecked near Dunkirk; five lives lost. Propeller North burned in St. Clair river. Propeller Antelope burned at Buffalo. Propeller Portsmouth, 525 tons, becomes a total loss at Middle island, Lake Huron. December 10: Navigation closes between Detroit and Cleveland.

*Other Casualties.*—Propeller Sunnyside, 113 tons, lost at Pine river, Lake Michigan. Bark O. Stevens, 320 tons, wrecked in Georgian Bay. Bark R. G. Winslow, 499 tons, wrecked on Spectacle reef, Lake Huron. Bark Tubal Cain, 226 tons, lost at Two Rivers, Lake Michigan. Brig Fox, 405 tons, lost on North Harbor reef, Lake Erie. Brig Mayflower, 219 tons, lost on Lake Huron.

The following named vessels were all schooners: Rose Dousman, 133 tons, lost near Buffalo with three lives. Byron, 180 tons, sunk by the schooner Canton in Lake Michigan. Commerce, 183 tons, wrecked at South Haven, Lake Michigan. Isabella, 180 tons, wrecked on Long Point, Lake Erie. Wellington, 298 tons, lost on Skillagalee. Barney Eaton, 166 tons, lost with three lives on Lake Michigan. Carrie Woodruff, 127 tons, lost on Lake Michigan. W. A. Glover, 162 tons, lost near Toronto. John Thursby, 360 tons, lost at Grand Traverse. Grape Shot, 369 tons, wrecked on Plumb island. Maple Leaf, 299 tons, wrecked on Detroit island. Kate Doak, 146 tons, lost at Pere Marquette with two lives. Wave, 180 tons, lost at Nine Mile Point, Lake Ontario. Portland, 394 tons, wrecked at False Presque Isle, Lake Huron. Chieftain, 303 tons, wrecked on Lake Michigan. J. Dresden, 116 tons, wrecked at St. Joseph. Hanover, 237 tons, lost in Green bay. Gold Hunter, 386 tons, wrecked at Point Pelee. Albemarle, 270 tons, lost in Mackinac Straits. Snowbird,

180 tons, foundered in Lake Erie. Queen of the Bay, 73 tons, wrecked near Oswego. H. B. Steele, 118 tons, lost in Sturgeon bay. Commodore Foote, 180 tons, sunk by schooner Kilderhouse in Lake Huron. Carthaginian, 374 tons, lost on Lake Ontario. B. F. Davy, 459 tons, wrecked at Port Colborne. M. A. Rankin, 126 tons, wrecked near Buffalo. Corinthian, 368 tons, lost on Long Point. Baltic, 369 tons, wrecked at Oswego. C. G. Alvon, 308 tons, wrecked on Lake Ontario.

1868.

*Increase of Mortality on the Lakes.*—The mortality during this year (1868) was 331 lives, an increase over 1867 of 120. The greatest loss at any disaster was involved in the burning of the steamer Sea Bird, near Waukegan, Lake Michigan, early in April, and 72 men, women and children went to death. The vessel was a total loss.

The Sea Bird was on the Goodrich line, and had left Milwaukee for Chicago April 8, with about 75 souls on board. When nearly opposite Waukegan fire was discovered in the hold. The steamer was at once headed for the shore, but the wind was blowing from the northeast and sent the flames forward. An explosion followed, destroying or cutting adrift the four lifeboats. In two hours the vessel had burned to the water's edge and soon after took its final plunge. There were only two survivors.

The second most appalling disaster was the loss of 32 lives by the sinking of the steamer Morning Star by collision with the bark Cortland, on Lake Erie; then came the foundering of the propeller Hippocampus in Lake Michigan, carrying down 26 lives; followed by the burning of the propeller Perseverance, on Lake Ontario, with a loss of 14 lives. The loss of the unknown during the season was 150.

While leaving Buffalo for Port Colborne May 1, the propeller Gov. Cushman exploded, instantly killing 11 of her crew. The entire stern of the propeller was blown away. The Cushman was loaded with grain from Milwaukee, and had run for three winters in connection with the Detroit and Milwaukee line. She was built in 1857.



re-built in 1865, and the explosion made her a complete wreck.

*From Steamer to Barge.*—Early in the season of 1868 the side-wheel steamer Illinois, 826 tons burden, and built in 1854, was dismantled of her machinery and converted into a barge, towed through the lakes by the propeller Iron City, in the lumber trade. The engine she had in her was formerly in the Illinois No. 1.

*Other Events of 1868.*—March: The first marine disaster of the season occurred at Cleveland. The schooner Eliza Caroline was forced out of the harbor by a freshet and badly damaged; 10, Ship Owners Convention in Cleveland; tug Niagara, built in 1849, sunk in Cleveland harbor; navigation on Lake Erie opened to Dunkirk; also between Detroit and Port Huron; 20, Lake Erie entirely free from ice; sailors' wages fixed at \$1.25 per day in Chicago; steamer Empress burned at Kingston, Ontario; 31, navigation opened on Lake Huron ports. Bark Sunrise passed Detroit, March 15, the first sail vessel of the season, from Chicago, *en route* to Buffalo. Schooner E. M. Peck, with eight lives, foundered during a fearful storm on Lake Michigan. The outfit of the propeller Genesee Chief, schooners Republic and J. H. Hartzell, burned at Clark's dry dock, Detroit. Straits of Mackinac cleared March 19, the propeller Montgomery, Capt. J. Nicholson, being the first boat through, west bound. Schooner Erie, formerly a revenue cutter, and 35 years in the service, was wrecked at St. Joseph. April: Schooner Arcturus sunk by collision with bark James F. Joy. Schooner Gertrude sunk by collision with a cake of ice. Tug C. Y. Richmond lost on Lake Huron. May: Propeller River Queen burned at Marine City. A violent northeast gale throughout the lake region May 7, causing much damage to the shipping. Schooner Free Democrat capsized in Lake Michigan, and four lives lost. Propeller Oneida, laden with merchandise, stranded and sunk at Sandusky. Vessels passed Detroit May 28, having been sixteen days on the passage from Chicago. Sailors' wages fixed at \$1.50 per day at Chicago. Schooners Mary Collins and Sweepstakes collide near Bar Point,

Lake Erie. Steamer River Queen, sunk after burning at Marine City, raised. Schooner Minnie Proctor total wreck at Oakville, Ont. Propeller St. Louis and schooner B. Parsons collide on St. Clair Flats. Bark Newsboy collides with and sinks schooner Illinois near Grand Haven. Bark Bentley damaged by collision with a locomotive at the C. B. & Q. R. R. bridge in Chicago. Tug Relief capsized near Sorel, Canada; two lives lost. June: Schooner King Fisher took on 900 tons of coal at Cleveland, inside of ten hours. Propeller Concord sailed from Lake Superior to Detroit, with a mass of copper weighing 19,556 pounds. Steamer Morning Star and Bark Cortland collided between Cleveland and Point Pelee, both vessels going to the bottom; 32 lives lost with the steamer, and ten with the bark; the steamer was *en route* to Detroit from Cleveland, in command of Capt. E. R. Viger. Bark Clayton lost on Lake Huron by collision with schooner Corning. Schooner Thornton, sunk in the Sault canal, raised. Bark American Union collides with and sinks the Forest. July: Propeller City of Detroit struck an obstruction, coming into Detroit river, and sunk, damaging cargo of corn. Schooner Dunderburg, laden with 40,000 bushels of corn, was sunk by the propeller Empire State in Lake Huron; one life lost. At Oswego 5,247,000 feet of lumber were received during 48 hours. Propeller New York collides with brig C. P. Williams near Turtle island. Propeller Rapid, sunk at Sarnia, raised. Schooner Africa, sunk in the Sault river, raised by tug Satellite. Wreck of propeller North, which was burned and sunk a year before at Baby's point, River St. Clair; sold for \$1,500. Detroit & Cleveland Steamboat Company purchase the side-wheeler Northwest for \$115,000. August: Schooner Arcturus, sunk at Long point, raised and taken to Buffalo. Bark Acorn and schooner Telegraph collide at Buffalo. Severe storm on Lake Erie 18th. Schooner Elbe sunk on Lake Michigan by collision with schooner Frank Perew. Schooners Ketchum and Neshotah collide near Two Rivers. Schooner Little Albert sunk off Little Sodus, Lake Ontario. Scow

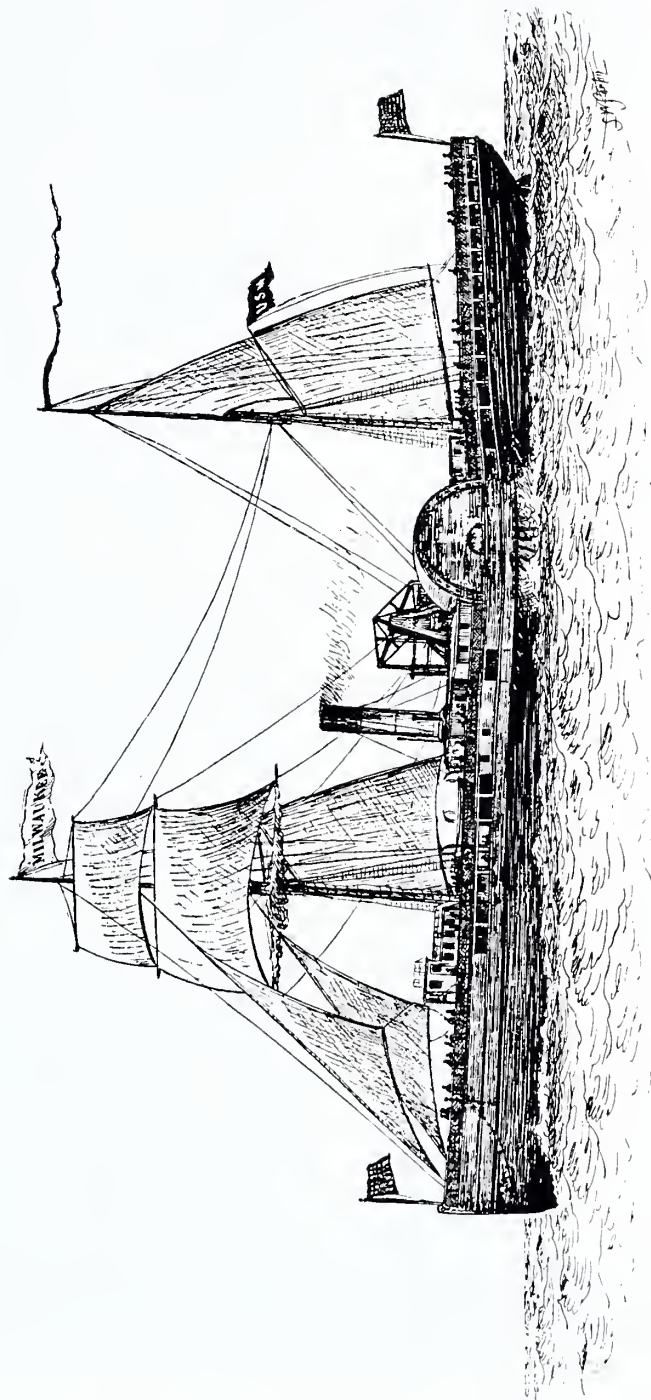
C. G. Williams sunk at Muskegon. Propeller Empire State seized by the U. S. marshal on a libel in Admiralty procured by the owners of the Dunderberg, sunk by collision on the 15th inst.; damages placed at \$60,000. September: Propeller Hippocampus, laden with fruit, foundered in Lake Michigan between St. Joseph and Chicago, 26 lives going down with her. A heavy northeast gale prevailed on this date throughout the lake region, with much damage to vessels. The steam barge Illinois, formerly a side-wheeler, and the first of that name on the lakes, was lost on Lake Huron. Bark Clough wrecked above Cleveland; loss of seven lives. Schooner Hyphen, ore laden, raised by wreckers near Point Pelee, went down again, with loss of three lives. Schooner Persian, laden with wheat, was sunk by the schooner E. B. Allen off Forty Mile Point, Lake Huron, and ten lives lost. Bark Etowah sailed from Cleveland for Liverpool with a cargo of petroleum. Schooner Albemarle abandoned at Mackinaw. Schooner J. A. Davis capsized off Grand Haven. Scow Hanson sunk at Monroe. Bark Emma L. Coyne wrecked at Rocky island passage. Schooner Live Oak wrecked at Chicago. Severe storm on Lake Michigan. Schooner Ruby ashore at Sheboygan and total loss. Schooner America capsized near Chicago. Scow J. A. Traves capsized near Grand Haven; two lives lost. October: Schooner Forfar total wreck at Muskegon. Schooner A. Ford sunk in Welland canal. Scow Iona collides with schooner Wm. Grandy off Silver creek. Paragon a total wreck at Sarnia. Schooner F. T. Barney sunk by collision with schooner T. J. Bronson in the Straits. Schooner F. L. Wells wrecked off Port Bruce. Schooners Swallow and Scoville collide at Chicago. Bark Elizabeth Jones and propeller Roanoke collide at Buffalo. Schooner Andes sunk on Lake Erie off Madison, Ohio. Schooner Hattie Johnson sunk at Hammond's bay, Lake Huron, 17, heavy northwest gale on all the lakes. Bark L. H. Colton, laden with petroleum for Liverpool, took fire soon after leaving Cleveland and was a total loss. Propeller Congress, formerly the Detroit, laden with merchandise, was stranded at Thunder

bay and became a total loss. Propeller Perseverance was burned on Lake Ontario, while *en route* to Oswego, and 14 lives were lost. Heavy southwest gale on all the lakes. Steamship Milwaukee went upon the beach at Grand Haven and became a total loss. Propeller Merchant, grain laden, struck near Malden and sunk. November: Schooner Gazelle wrecked at Centreville. Brig C. P. Williams wrecked near Port Austin. Schooner Maria F. Johnson sunk on Lake Erie. Schooner E. K. Gilbert sunk at Point Pelee. Barge Michigan, formerly a side-wheel steamer, was lost in Lake Erie with a cargo of lumber. Barge City of Cleveland, formerly the steamer of that name, lost at the same time and place. Propeller City of Boston, laden with flour and grain, was sunk by the propeller Milwaukee, near the Straits; a total loss. Erie Railway Steamboat Company sell to Jay Gould, trustee of New York and Erie railway, the following: Propellers Elmira, \$27,000; Tioga, \$45,000; Canisteo, \$50,000; Olean, \$38,000; Passaic, \$50,000; New York, \$30,000; Wabash, \$60,000. Schooner Walrus lost on Gray's reef.

1869.

*Great Storm of November.*—One of the most severe and destructive storms in the history of lake navigation occurred in the month of September, 1869. Its especial violence was not felt at any particular place, but with a fearful widespread gust it swept the chain of lakes, leaving in its pathway of destruction a number of wrecked craft of all descriptions. The large steamer and propeller escaped its violence no less than the small scow and schooner engaged in shore-trading; all were piled in a wrecked mass along the beach or sunk in the engulfing waves. There was scarcely a lake port that did not feel the effects of the storm, and scarcely a ship-owner of importance who did not suffer some loss of property.

The wind began to blow in a gale from the northwest on the evening of September 16, accompanied by a blinding snow-storm at the Straits of Mackinac and other points. The storm spread rapidly, and continued to blow to the eastward and to the west-



From "American Steam Vessels," Copyright 1895, by Smith & Stanton.

STEAMER MILWAUKEE.

Built at Buffalo in 1859. Length 247 feet; tonnage 1,100; wrecked at Grand Haven, Mich., in 1868.





ward for four days. All craft upon the lakes sought shelter at once when the indications became so unfavorable for safe passage; but fortunate were they who were near a harbor. During the first hours of the storm several boats went ashore on Lake Michigan, some on Lake Erie and Lake Huron; and this number constantly increased until the shore lines were strewn with wreckage.

Vessels of all descriptions to the number of 97 were stranded or foundered during the rough weather. Their aggregate tonnage was 27,026, valued at \$1,267,800. The number of total losses was 35, aggregating 16,954 tons burden, with a valuation of \$468,600. The list comprises one steamer, six propellers, one tug, eight barks, four brigs, 18 scows, three barges and 55 schooners. Of the total losses there were two propellers, two barks, four brigs, 19 schooners, six scows and two barges. Among those lost was the bark Naomi, a fine vessel, Capt. James Carpenter, which was wrecked at Manistee, Lake Michigan, and, under the circumstances, was most distressing. Captain Carpenter had himself and wife lashed to the mizzen-gaff, and she breathed her last with her head resting on his shoulder. After saying to a member of the crew "Mother is dead," he rolled off and disappeared in the waves. He had been many years on the lakes, was a man of strict integrity, and had lived a Christian life. He was a resident of Painesville, Ohio.

The Ogdensburg *Daily Journal* of December 3, 1869, contained the following paragraph: "On the night before Thanksgiving, a little daughter of L. W. Houghton, of this city, awoke the young woman sleeping with her, and demanded to have a lamp lighted, saying that she had seen her grandfather standing by the bedside. Mr. Houghton's wife is a daughter of Captain Disbrow, lost on the Volunteer. This incident, told to Mrs. Disbrow Thanksgiving morning, cast a gloom over her, from which she had not recovered, when the startling news of the loss of the Volunteer came to hand. This is certainly a remarkable incident."

*Classified List of Vessels Lost in that Storm.*—A classified list of steamers propellers, schooners, brigs barks, tugs, scows and barges lost on the lakes during the storm of November 16-19, is as follows:

NAME	TONNAGE	VALUE
<b>STEAMER—</b>		
City of Sandusky.....	452	\$42,000
<b>PROPELLERS—</b>		
Equator (total loss).....	620	21,000
Granite State.....	351	26,000
H. Howard.....	354	22,000
H. Warrington.....	343	25,000
Toledo.....	621	60,000
Thomas A. Scott (total loss)...	1,159	80,000
<b>TUG—</b>		
George Hand.....	32	5,000
<b>BARKS—</b>		
Alice Richards.....	500	20,000
Cream City.....	767	25,000
Fontanelle.....	370	13,000
George Thurston (total loss)...	324	15,000
Invincible (total loss).....	437	15,000
John Miner.....	375	20,000
Oneota.....	599	23,500
P. S. Marsh.....	661	37,000
<b>BRIGS—</b>		
Supply (total loss).....	396	12,500
Concord (total loss).....	234	10,000
Racer (total loss).....	377	13,000
Robert Burns (total loss).....	307	9,000
<b>SCHOONERS—</b>		
Arrow (total loss).....	281	12,000
Alice Craig.....	65	3,000
Azof.....	239	14,000
Anna O. Hanson.....	250	20,000
Adell (total loss).....	20	900
A. E. Hart (total loss).....	445	12,000
Bahama.....	433	18,000
Bermuda (total loss).....	394	12,500
Carlingford.....	630	40,000
Columbian.....	456	18,000
C. A. King.....	394	18,000
Eagle Wing (total loss).....	356	12,000
Eliza White.....	135	8,000
Echo.....	41	1,700
Eclipse.....	230	6,000
E. Harmon.....	370	20,000
Excelsior (total loss).....	136	8,000
Fayette Brown.....	723	41,000
Garibaldi.....	234	11,000
G. J. Whitney.....	383	93,000
Grand Turk (total loss).....	327	11,000
George H. Waud.....	394	17,000
Harvest Home.....	395	15,000
H. C. Potter.....	400	25,000
Island.....	30	2,000
J. E. Sutherland.....	99	1,000
Julia.....	60	3,000
John F. Warney.....	341	12,000
Jennie and Annie.....	400	12,000
Kate Kelley (total loss).....	350	20,000
Kate Robison.....	283	16,000
Liecoln Dall.....	928	18,000

NAME	TONNAGE	VALUE
L. S. Hammond (total loss)....	320	25,000
L. C. Irwin (total loss).....	113	3,500
Minot Mitchell.....	194	4,500
Monteagle (total loss).....	296	12,000
Melvina (total loss).....	393	17,000
Mary O'Gorman.....	125	7,000
Nomad.....	40	2,500
Ocean Wave (total loss).....	308	10,000
Plymouth Rock .....	293	12,000
Portage.....	260	10,000
Quickstep .....	255	12,000
Ringgold.....	60	3,000
Southwest (total loss).....	280	21,000
Souvenir.....	79	3,000
Sam Amsden.....	70	2,500
Shook (total loss).....	361	12,500
Scotland.....	187	7,000
St. Peter.....	127	7,000
Traveler.....	109	3,000
Union.....	40	8,000
Volunteer.....	258	12,000
Wyandotte.....	452	15,000
Wild Rover (total loss).....	290	11,000
William Fiske (total loss)....	401	20,000
SCOWS—		
Alexander.....	70	4,000
Aleck (total loss).....	70	2,000
R. H. Braman.....	102	5,500
George Neville (total loss)...	84	2,000
Home.....	91	4,000
H. R. Becker.....	140	8,000
Iris (total loss).....	82	3,500
John Lillie.....	95	3,000
J. C. Hill.....	135	5,000
Milton.....	108	5,000
Mona.....	50	2,500
Rockaway.....	168	9,000
Spanker (total loss).....	45	2,700
Sarah Olow (total loss).....	288	4,500
Sutler Girl.....	70	2,000
Sea Bird (total loss).....	102	3,500
South Haven.....	80	4,500
Wm. Bates.....	76	3,000
BARGES—		
David Smoke.....	593	6,000
J. A. Hatton (total loss).....	182	2,000
Niagara (total loss).....	295	5,000

*Summary of Disasters During 1869.*—During the navigation of 1869 no less than 138 vessels of every description passed out of existence, with an aggregate loss of 33,920 tons. There were commissioned during the season 67 new vessels, with an aggregate of 19,293 tons, thus showing a decrease for the year of 14,627 tons.

*Decline of Side-wheel Steamers.*—During the navigation of 1869 there were variously employed on the northern lakes 121 side-wheel steamers, 140 propellers, 247 tugs, 175 barks, 50 brigs, 904 schooners,

and 223 scows, making a grand total of all craft employed 1,860. At this epoch of lake history, side-wheel steamers began to decline, the scow class having already gained the ascendancy, and there was no indication that a full-rigged ship had ever been on these waters, for they had long since disappeared and were almost entirely forgotten.

*Other Events of 1869.*—The barkentine Golden Fleece was converted into a three-masted schooner, as were also the Bridgewater and Sunrise. The number of vessel sales which took place amounted to about 335 as far as the records show. The propeller Saginaw, after 19 years' service, was converted into a tow barge at Detroit. The steamer Rothesay Castle, a former blockade runner, took her departure from Lake Ontario for ocean service. March: Vessels commenced plying on Lake Michigan, March 26, and between Detroit and Port Huron. 27, navigation opens at Cleveland by the clearance of the schooner Fannie L. Brooks. April: Barks Geo. Sherman and J. P. Marsh collide in the Straits. Schooner W. S. Lyons sunk at Malden. Schooner Mt. Vernon sunk at Keweenaw. Steamer Manitowoc damaged by collision with schooner Jefferson, near Chicago. Schooners L. C. Irwin and Sea Gem collide near Chicago. Canal-boat Gen. McClellan sunk at Chicago. Bark Wm. T. Graves collides with the schooner Metropolis, damaging the latter. One hundred vessels took their departure from the Welland canal, April 30, bound for western ports. May: The propeller Dean Richmond, Capt. Ben. Wolvin, was the first boat to leave Buffalo; 1, propeller Dominion damaged by collision with the schooners E. W. Head and Bigelow, off Point Pelee. Bark H. P. Bridge lost on Lake Huron. Schooner Lucy J. Latham sunk at Chicago; raised May 19. Schooner Ringgold capsized near Michigan City. Steamer Grecian sunk at the head of the Long Sault rapids. Schooner Comet sunk near Charity island; raised and brought to Bay City. Schooner Columbia and bark Tanner collide in Buffalo, damaging the latter to the extent of \$500. Schooner Spaulding damaged by collision in Saginaw bay. Severe storm on Lake Michigan May 14. Scow



Storm sunk at Chicago. Bark City of Painesville collides with schooner Monterey at Thunder Bay island. Schooner Sarah sunk at Port Hope, raised. Propeller Tonawanda collides with propeller Equinox at Clay Banks. On May 25 the bark Etowah, Capt. W. F. Campbell, arrived at Cleveland from Liverpool with merchandise and June 17 sailed from Cleveland for Liverpool with a cargo of oil. June: Scow Hirondele sunk near Kalamazoo. Schooner Zephyr sunk off Long Point. Schooner J. S. Wallace sunk at Holland, Michigan. Bark Garry Owen sunk off Geneva, Ohio. Schooner Bermuda damaged by collision with scow Seit. Steamer Lizzie May capsized by collision with a lumber craft. Schooners Sinai and Frank Perew collide near Grand Haven, resulting in serious damage. Schooner Tom Downey burned near Ogdensburg. Schooner Consuelo sunk at Toledo. Tug Armstrong sold by Barse & Co., of Bay City, for \$2,500. Schooner Lady Moulton sunk on Lake Ontario by collision with bark Sir Edmund Head. Tug Asa Covell explodes her boilers in Cleveland. Schooner Reed Case, a new vessel, failed to pass through the Welland canal, having one inch too much beam, and was obliged to transfer her cargo. Propeller Arctic damaged by collision with the bark Sherman. Propeller Queen of the Lakes burned at Marquette. Tug Goodnow sunk by collision with the bark Sunny-side. Bark Nucleus sunk at Marquette. July: Schooners J. F. Card and Rosa collide at Black River. Tug Harrison sunk at Chicago. Schooner Lee damaged by lightning at Chicago. Scow Supply sunk off Port Washington. Tug J. A. Crawford sunk at Chicago. Propeller Nebraska collides with the tug Wilcox at Detroit. Schooners Whirlwind, Adirondack, Ellen Williams and Onward damaged by collision at Chicago. Schooner J. G. McCullough sunk near Bailey's Harbor by collision with bark Pensaukee. Propeller John Barber sunk at St. Joseph. Tugs Louis Dole and Evans collide at Chicago, sustaining injuries estimated at \$400. Severe storm on Lake Erie July 10. Schooner Dolphin sunk and abandoned in the Straits of Mackinac.

August: The bark Thumutis, Capt. Robert Dick, sailed from Cleveland for Liverpool with a cargo of oil. The iron side-wheel steamer Helen Brooks, arrived at Detroit from Baltimore, Md., *en route* to the Mississippi *via* Chicago. Steamer Lac La Belle sunk November 23, 1866, raised and brought to Detroit. Tug Robert Tarrant, barge East Saginaw, bark J. G. Masten, brig Lowell and schooner Catchpole damaged by collision a Chicago. Schooner L. E. Calvin sunk on Lake Ontario. Schooner Arab sustains injuries during a storm on Lake Michigan. Scow Selma and schooner Leo damaged by lightning. Tug J. E. Eagle burned near Bay City. Tug Dragon severely damaged by collision with the bark Ogarita at Buffalo. Steamer Silver Spray sunk by collision with the propeller Comet in the St. Clair river. Schooner Ellington sunk near Toledo by collision with a lumber raft. Scow William Tell burned at St. Joseph. Schooner Gov. Hunt lost on Lake Erie. September: The propeller Boscobel burned on the St. Clair river with the loss of three lives. The steam barge S. Clement dismantled of her machinery at Detroit and made a tow barge. The screw steamer Washington left the lakes for the ocean, where she had formerly plied. Schooner Commencement lost on Lake Michigan. Scow Ocean Wave lost on Lake Michigan. Bark Nucleus sunk at Whitefish Point, Lake Superior. Schooner Golden Rule sunk at Cleveland. Steam barge Prindeville sunk at Bay City. Severe storm on Lake Erie September 8. Propeller Young America and schooner Theodore Percy collide in Welland canal. Schooner Jaspon sunk in Cleveland harbor by collision with a lumber barge. Propeller Elmira and schooner E. Kanter collide at Buffalo. Schooner Echo capsized off Charlotte. Schooner J. L. Gross sunk in Sault Ste. Marie river. October: Tug Traffic burned at Saginaw. Schooner Son & Heir total loss at Georgian Bay. Schooner Norway sunk at Sheboygan. Schooner Raleigh total loss at Portage bay. Schooner Titan a total wreck at Pentwater, Mich. Bark Water Witch sunk at Timber island. Barge Three Bells lost on Lake Michigan. Schooner Zephyr cap-

sized near St. Joseph. Bark Favorite and schooner John Weeden collide near Sheboygan. Scow Ferris a total wreck on Lake Michigan. Schooner Sea Gull wrecked at Grand Haven. Scow Falcon total wreck on Lake Erie. Tug Preston Brearley sunk on Lake Michigan by collision with steamer Sheboygan. Propellers Hunter and Comet sunk by collision. Bark Forest King totally wrecked on Georgian Bay. Steamer Omar Pasha burned at Muskegon. Schooner Kate Buley capsized off Point au Sable. Tug Witch sunk at Saginaw. Schooner Comely sunk at Point Albino. Bark City of Milwaukee and bark C. K. Nims collide near Point Albino. November: Schooner Melvina wrecked on White shoal. Schooner Alfred Allen goes to pieces on Mohawk reef. Tug Kate Gerlach burned on Lake Erie. Schooner Eliza White sunk off Port Dover. Schooners White Oak and Magdalia collide on Lake Ontario. Schooner Emma lost near Blue Point. Live Yankee wrecked at High island. Steamer Excelsior burned at Portsmouth. Schooner Nora sunk near Sheboygan by collision with the schooner Sweepstakes. Sloop Eureka wrecked at Au Sable. Schooner Alfred Allen abandoned at Mohawk island. Barge Illinois sunk near Lakeport. Brig Wm. Fisk went to pieces at Devil river. Propeller Wenona collides with the schooner Fremont, resulting in sinking the latter. Bark Naomi wrecked near Manistee. Schooner Jessie McDonald sunk at Consec, Ontario. The barque Wirralite arrived at Cleveland from Liverpool with a cargo of merchandise. December: Steam barge M. Groh wrecked in Sandy bay.

#### 1870.

*Losses During 1870.*—During 1870 the total loss on hull and cargo amounted to \$760,700; other loss \$210,700; total for the season \$971,400.

The steam barge Empire, noted among the lost at Long Point, Ont., was formerly the famous side-wheel steamer, built by Capt. G. W. Jones at Cleveland in 1844, and was first commanded by Capt. D. Howe. She was of 1,220 tons burden and was the pride of the lakes, both in accommo-

dation and speed. She met with but few mishaps during her career until her remains were cast upon a foreign shore.

The steamer T. F. Parks, which is enumerated among the total losses, was originally the Plough Boy, built at Chatham in 1851 by the Eberts Brothers, and was 450 tons burden. Her first route was between Chatham, Detroit and Malden, and afterwards between Detroit, Windsor and Goderich. Later she was sold to T. F. Parks, of Malden, who had her name changed, and in whose hands she remained up to the time of her destruction by fire as she lay anchored in the stream at Detroit.

*Departures for Europe.*—On July 27, the bark Thermutus departed from Cleveland on a voyage to Liverpool with a cargo of oil and staves. She and the Wirralite, which sailed earlier in the season, were the only vessels to make European voyages during this season.

*Other Events of 1870.*—January 21: Navigation opened at Cleveland by the schooner Varnie M. Blake. April: Steamer Magnet collides with the schooner Commodore Perry at Detroit. Schooner Allie Thiel wrecked at Chicago. Schooner E. B. Ward capsized on Lake Michigan. May: Schooner Sanborn damaged by collision at Chicago. Bark Alice and steam barge Saginaw collide near Milwaukee. Bark Glenbeulah damaged by collision with the bark Woodruff near Long Point. Steamer Haliburton burned at the wharf at Haliburton, Ontario. Steamer Vampire capsized at Pigeon bay during a storm. Propeller Toledo disabled near Point Pelee and taken in tow by the propeller Olean. Scow Adair sunk at Point Pelee. June: Schooner Honest John and scow Skidmore collide at Chicago. Schooner Kate Bully abandoned near Sleeping Bear Point. Schooners Hattie Johnson and White Squall collide on Lake Michigan. Schooner Juliet sunk at Port Burwell. Propeller Bruno sunk near Welland. July: Schooner Eagle capsized on Lake Ontario and was taken in tow by the tug Alida. Schooner Marquette sunk by collision with the bark H. P. Baldwin. Propeller B. F. Wade and schooner Gertrude collide at Chicago. Schooner Phalarope damaged by



lightning at Milwaukee. Propeller Guiding Star explodes her boilers at Point Maitland; seven lives lost. Schooner Edith sunk by collision with the propeller Bristol. Brig Roucius damaged by collision with the schooner Aetna near Chicago. Tug W. H. Wood capsized in Mud Lake. Barge B. C. & Co. sunk at Saginaw. Propeller St. Joseph and schooner E. C. L. collide at Oconto. Schooner Falcon damaged by collision at Kewaunee. Scow Mary Ann wrecked at Marblehead. Scow Henry Young wrecked on Lake Erie. Brig Marie Julie foundered near the Magdalen islands. Barge Schuyler Colfax sunk from injuries sustained from lightning. Scow Mary Eden capsized on Lake Michigan. August: Schooners Cambridge and Ketchum collide in Straits of Mackinac. Schooner Hippogriffe and bark Cleveland damaged in Chicago river. Schooners W. W. Brigham and Radical collide at Manistee. Propeller St. Louis injured by collision with schooner Atlanta at Buffalo. Schooner E. B. Gannett sunk near Oswego. Propeller Plymouth, schooner Barbarian and scow Ravenna collide at Chicago. Schooner Ralph Campbell and propeller James Fisk, Jr., damaged by collision. Tug Magnolia and schooner J. E. Gilmore damaged by collision at Chicago. Schooner Thornton sunk. Brig Helfenstein collides with propeller Mohawk in the Straits. Tug Nellie Mayo burned near Saginaw. Bark F. Morell collides with the schooner Mary Morton on Lake Huron. Schooner Oriental collides with three schooners in tow of the tug Murbur near Point Pelee. Tug Farnanda explodes her boilers at Oswego. Propeller Ontonagon sunk on Lake Superior near the Sault canal. Propeller Free State and scow C. G. Messel collide near Malden. Schooner Jennie Kimball damaged by collision with piers at Kincardine, Ont. August: Scow Gould sunk off Cedar Point. Schooner G. L. Seaver and scow M. I. Wilcox collide at Chicago. September: Schooner S. V. R. Watson collides with the Mary Morton at Buffalo. Schooner E. S. J. Bemis sunk at Long Point Cut; 22, propeller Dominion sunk at Gananoque. Bark Indiana sunk near Erie. Scow Venture capsized at Sturgeon bay. Steamer

Manitowoc and scow Hunter collide at Milwaukee. The steam-barge Jennie Briscoe sunk by collision with propeller Free State near Grosse Isle. Scow Meisel sunk at Detroit. Barks Board of Trade and Butcher Boy collide at Chicago. Scow-schooner Ellen White burned on Lake Erie. October: Barge Mohawk lost at Point aux Barques. Scow Union wrecked at St. Joseph. Schooner Carrington sunk in Green bay. Schooner Mary Ann Rankin wrecked at Port Colborne. Schooner Nellie Brown capsized near Sacket's Harbor. Schooner Northern Belle and bark City of Buffalo collide at the Straits. Schooner Buckingham sunk at Saginaw bay. Propeller Sun collides with the bark Levi Rawson at Chicago. Tug Diamond explodes her boiler at Michigan City. Propeller Shickluna burned at Port Colborne. Schooners Advance and Flying Cloud abandoned on Lake Ontario. Barge Lyre sunk at foot of Beauharnois canal. Scow Silver Cloud and schooner Gem damaged by collision. Brig Fannie Gardner and schooner Charley Hibbard collide at Chicago. Scow Emma Blake totally wrecked near the Duncan. Tug Ontario burned at Algonac. Wreck of the Guiding Star sold for \$5,000 to Capt. J. N. Nicholson. Schooner Anna Henry lost near Little Point Sable. Canadian schooner Annie Mulvey damaged by lightning off Pt. Betsey. Propeller Day Light partially burned at Grand Haven. November: Schooner Dauntless a total wreck at St. Martin's reef. W. R. Hanna capsized on Lake Michigan. Schooner Ariel wrecked near Collingwood. Tug Union burned at Saginaw bay. Tug Allen burned at Toledo. Scow Windsqr sunk at Benton Harbor. Schooner Dreadnaught wrecked at Grand island, Lake Superior. Schooner Darien wrecked on Lake Huron. Schooner Jessie wrecked at Salmon Point. Brig Mohegan lost at Point aux Barques. Schooner Glad Tidings lost on Lake Ontario. Scow Kitty wrecked at Painesville, Lake Erie. Bark Sweetheart and brig Lucy J. Clark collide at the Straits. Schooner A. B. Ward a total loss at Grand Haven. Schooner Swift a total loss at Wolf island, Lake Ontario. Propeller G.



J. Truesdell damaged by explosion of her cylinder head. Scow John Lilly went to pieces at Grand Haven. Bark Badger State a total loss at Sleeping Bear point. Tugs Tiger and C. W. Armstrong burned at Bay City. Schooner Dolphin capsized near Milwaukee. December 1: Schooner Tartar abandoned at Point Pelee.

Other losses for the season were as follows: Steamer Orion wrecked at Grand Haven. Propellers: Wabash sunk by propeller Empire State at Port Huron. Tonawanda foundered off Point Albino. Tugs: Stag, Challenge, Active, Kate Fletcher and Harrison. Bark: Sir E. W. Head wrecked in Lake Erie and four lives lost. Brig: Michigan wrecked at Point aux Barques. Schooners: Ellen Teal wrecked near Chicago. Illinois sunk by collision in Lake Michigan. Azoo sunk by propeller Bristol in Lake Ontario. Flora Temple wrecked at Racine. Norwegian lost near Oswego.

Bermuda wrecked on Lake Superior. Joseph Cochran lost at Bailey's harbor. Britannia wrecked at Erie. Elyria wrecked at Erie; two lives lost. William John wrecked on Lake Ontario. Leviathan wrecked at Port Burwell. Jefferson wrecked on Lake Michigan. C. T. Richmond wrecked at Dunkirk. H. B. Steele wrecked at Point Betsey. Comet wrecked at Point Betsey. Hornet wrecked at Good Harbor, Lake Michigan. Norway lost at Muskegon. Mary Morton wrecked on Long point. Hemlock burned on the St. Lawrence. Kelley wrecked at Windmill point, Lake Erie. Ben Flint wrecked on Lake Michigan. Africa wrecked on Round island, Lake Superior. Ostrich wrecked on Green bay. Kate wrecked near Coburg, Lake Ontario. D. R. Braman wrecked at Black river. Sardis Burchard wrecked at Point aux Barques. Hercules (barge) wrecked at Point aux Barques. Joseph A. Holland lost in Lake Huron with three lives.

## CHAPTER XXXIX.

1871-1880.

THE GREAT CHICAGO FIRE, 1871—SMOKE AND DISASTER—LOSS OF THE COBURN—TELEGRAPHIC COMMUNICATION—FROM THE LAKES TO THE MISSISSIPPI—OTHER EVENTS OF 1871—SHIPBUILDING ACTIVE, 1872—PHENOMENON ON LAKE ONTARIO—FOUNDERED IN MID-LAKE—OLD WRECK DISCOVERED—SEVERE SEPTEMBER STORM—OTHER EVENTS OF 1872—LOSS OF THE PROPELLER IRONSIDES, 1873—LOST ON LAKE SUPERIOR—TERRIBLE SNOWSTORM—OTHER EVENTS OF 1873—DESTRUCTION OF STEAMER BROOKLYN, 1874—OTHER EVENTS OF THAT YEAR—LOSS OF THE EQUINOX, 1875—OTHER FATAL LOSSES IN THE SAME STORM—PROPELLER COMET SUNK BY COLLISION—PERSIAN BURNED ON LAKE ERIE—OTHER EVENTS OF 1875—BURNING OF THE ST. CLAIR, 1876—OTHER EVENTS OF THAT YEAR—ADrift ON LAKE MICHIGAN, 1877—LOST ON A REEF—TWO TOTAL LOSSES—THE LAKE CARRIERS—OTHER EVENTS OF 1877—EVENTS OF 1878—SCOW FLEET MEETS DISASTER, 1879—OTHER EVENTS OF 1879—MEMORABLE STORM, 1880—LOSS OF THE ALPENA—DISASTER ON DETROIT RIVER—FOUNDERED ON LAKE HURON—OTHER EVENTS OF 1880.

1871.

THE great Chicago fire, in which several vessels and much shipping and dock property were destroyed, together with elevators, etc., will long be remem-

bered on the lakes. The fire broke out about 11 o'clock on the 8th of October, and raged without abatement until the entire business portion of the city was laid in ruins. From Harrison street (south) to Division street (north), and from the river

to the lake, and four miles long by one wide, the flames swept everything before them, besides burning away into the outskirts of the city, rendering homeless 100,000 people and destroying \$300,000,000 worth of property. About 2,500,000 bushels of grain in elevators were destroyed.

On October 9 the new propeller *Navarino*, while lying alongside the North pier at Chicago, was destroyed by the great conflagration; no lives lost; value of steamer, \$75,000. She was owned by the Goodrich Transportation Company. Other vessels destroyed on this date by the Chicago fire were the schooner *Glenbula*, owned by Magill and others; schooner *Eclipse*; the barkentine *Fontanella*, owned by Beckwith, J. D. Bothwell and others; the schooner *Butcher Boy*, owned by John Murray and others, partially destroyed; the Canadian bark *Valetta*, owned by Captain Larkin, and the schooner *Alnwick*.

This great fire and forest fires at the same date, which ravaged the lake region, caused a dense smoke to overhang the lakes for a number of weeks, made navigation exceedingly hazardous, and many vessels went ashore. On October 10 the tug *Despatch* ran into Point aux Barques reef with five barges in tow. The tug was a total loss. The schooner *Seneca Chief*, 150 tons, was burned to the water's edge while a fire was raging at Manistee a few days after the Chicago fire. She was built at Buffalo in 1846. The bark *Major Anderson* went ashore October 12 and proved a total wreck. She was owned by Capt. John Prindiville, of Chicago, who suffered great loss by the fire in that city. The *Anderson* for several years belonged to the Winslow line, and came out in 1861. She was 568 tons burden.

*Smoke and Disaster.*—The navigation upon the lakes during the year 1871 was attended with unusual difficulty, and rendered extraordinarily dangerous by the prevalence of dense smoke caused by fires in the forests of Wisconsin, Michigan and Ontario, which with frequent and severe gales, rendered disasters to shipping in that region frequent and destructive both to life and property.

There were many casualties for the year, and while a great proportion of the number of disasters for the year occurred to sailing vessels, and to persons and property connected therewith, a few also fell upon the steam marine, with terrible severity to life and property.

*Loss of the Coburn.*—One of the greatest disasters of the season was the loss of the propeller *Coburn*, Captain Demont, of E. B. Ward's Lake Superior line, October 18, in Saginaw bay, whereby 16 passengers, the captain and 15 of the crew, including every officer, except the second mate, were lost. There were upward of 70 persons on board, about 40 passengers, and a crew of 35. Among the passengers were eight women and five children, and two families in the steerage. The *Coburn* was bound from Duluth to Buffalo with wheat and flour. Shortly after passing Presque Isle harbor, the wind commenced blowing from the northeast, and there was so much smoke on the lake that the engine was checked down, and the steamer held head to the wind. A few hours later the wind veered to the southwest and blew a terrific gale. The *Coburn* labored heavily, but shipped no water of consequence until her rudder was torn off when she drifted into the trough of the sea, making her roll heavily, shifting her cargo. Holes were cut in her bulwarks, and the crew set to work throwing her cargo overboard, but the waves washed over her, tore off her smokestacks, and she began settling. Soon the fireman's gang was stove in and the water rushed into the hold in immense volumes. Ten men got into one of the yawls and seven into the other, leaving the life-boats bottom side up, untouched. When the *Coburn* went down Captain Demont stood just aft of the texas with his hand on the rail. There were quite a number of persons on the hurricane deck when it floated off, but they were seen only a short time. The *Coburn* was a fine, staunch, new propeller of 867 tons burden, well found in every department, having come out in June, 1870.

*Telegraphic Communication.*—In June a matter of great importance to all branches

of business was the establishment of telegraphic communication between Marquette and Sault Ste. Marie. By this enterprise a through circuit was established between the iron ore regions and the lower lake ports.

*From the Lakes to the Mississippi.*—Quite a sensation was caused by the passage of the steamer Wisconsin from Oshkosh, Wis., to Prairie du Chien, via Fox and Wisconsin rivers. The trip was made in 60 hours, and good weather was reported the entire distance. This occurrence gave life to the project of connecting the waters of the Mississippi river and Lake Michigan by ship canal.

*Other Events of 1871.*—The propeller Raleigh brought down in August 51,500 bushels of corn from Chicago to Buffalo; this was reported to be the largest cargo of grain ever carried by a steam vessel on the lakes. The old Canadian propeller Cronwell, sunk by collision in the Straits near Mackinac island, in 1857, was raised August 28. The barge Marquette, which was sunk in the fall of 1870 in the Straits, was raised and converted into a three-masted schooner. The renowned tug Winslow took down from Saginaw the champion tow; it consisted of 11 lumber-laden barges, and against a hard wind. Freights at the close of this season were quoted as follows: Coal, Buffalo to Green Bay, 75 cents; ore, Escanaba to Cleveland, \$2.75; lumber, Bay City to Lake Erie ports, \$5.00 per M. March 12: Schooner Union sunk at Milwaukee. April 5: The Welland canal opened, and the Sault canal on the 6th. The steamers Olean and Orontes were the first boats out of Buffalo; 4, the propeller W. T. Graves was the first through arrival at Buffalo. By collision between the steambarge Jaques Cartier and the little schooner St. Joseph, in April, near Fighting island, the latter sunk; 8, the schooner Kingsford, bound down, sprang a leak and sunk near Waugachance light. The Kingsford was built at Oswego in 1856, and was owned by Chicago parties; 25, the towing boat S. V. R. Watson struck by schooner S. G. Simmons and capsized near Chicago harbor; three lives lost; 27, schooner Pearl wrecked at Napanee.

Schooner Lucy J. Latham damaged by collision at Buffalo. May: Bark Lottie Wolf sunk at Milwaukee. The tug B. B. Jones exploded her boiler while lying at the railroad dock at Port Huron, instantly killing seven of the crew and injuring three. June: Tug W. A. Moore sunk in Saginaw bay. Schooner Resolute sunk at Erie. The propeller Alexander Weston caught fire at Lambton, Ont., and was burned to the water's edge. The Weston was a new boat of 150 tons burden, and was built at Wallaceburg in 1870. July: Brig Lucy J. Clark badly damaged by collision with the propeller St. Joseph at Chicago. Schooner Wanderer sunk at Port Huron. Scow Fairy capsized off Cleveland. Schooner Sweepstakes damaged by collision with the propeller City of Concord at Chicago. Schooner Castalia wrecked on Georgian Bay. Scow Advance sunk by collision with the U. S. Grant at Put-in-Bay. Bark St. Lawrence severely damaged by collision at Chicago. Bark Harvey Bissell sunk at Point Pelee. Schooner J. S. Newhouse burned off Grand Traverse bay; she was built in Cleveland in 1856 and measured 381 tons. She was raised and rebuilt. The propeller J. Barber, while on her passage from St. Joseph to Chicago, was destroyed by fire about ten miles off Michigan City, Ind.; two lives were lost. While the steamer Maine was on her west-bound voyage from Ogdensburg, she collapsed one of the main flues of her boiler, at or near Brockville, on the St. Lawrence river, causing thereby the death of six persons. August: Schooner San Jacinto wrecked and sunk in Sheboygan harbor. Scow Emma Young sunk at Algonac by collision. City of Montreal disabled on Lake Michigan. Scow Scottish Chief wrecked on Lake Michigan. Propeller Tonawanda, sunk last fall near Buffalo, raised. Schooner Winfield waterlogged off Spider island. Schooner Winfield Scott capsized near Death's Door: crew taken off by the propeller G. S. Truesdell. Schooner St. Joseph waterlogged on Lake Huron; taken in tow by steamer Galdna. Schooner Geo. M. Abell wrecked at Port Burwell. Tug Swan sunk at East Saginaw. The Canadian scow Dunham,



coal-laden, was lost on Lake Erie. She sailed from Cleveland August 19, in command of Captain Wright, with a crew of five men, all of whom were lost. The wreckage was washed ashore at Point Pelee. The steamer Akron, while lying at the wharves at Ogdensburg, was discovered to be on fire in the hold. To prevent a total loss of the vessel and cargo, she was scuttled and sunk; she was subsequently raised. The hull of the capsized schooner Stella was towed into Manistee by the tug Caroline Williams. She hailed from Racine, and was bound for Pentwater when she was overtaken by the gale. Her captain and half-owner, J. M. Raemunson, and crew of three were drowned. The schooner Winfield Scott, Capt. H. Faith, sprung a leak near Death's Door and soon capsized. The crew clung to the wreck 24 hours until rescued by the schooner Ethan Allen. The Winfield Scott was built in Cleveland, and was of 118 tons burden. September: Schooner New Lisbon capsized off Fairport. Bark Sunrise a total loss at lower end of Lake Huron. Propeller Michigan sunk opposite Sister islands in Alexandria bay. Schooner Clyde ashore and wrecked at Big Sodus. Schooner Grace Murray sunk at Erie. Schooner North Star a total loss on Lake Michigan. Propeller Dictator sunk by the Jay Gould at Manitou islands. Schooner Union sunk near Sheboygan. Schooner Miranda abandoned at Port Austin. Scow Duncan waterlogged and capsized near Cleveland. Schooner S. J. Layton sunk by the schooner Brooklyn in Welland canal. Schooner Lucy J. Latham sunk in Welland canal. Tug Little Rebel explodes her boiler at Chicago. Propeller Pacific sunk in Sault river. Barge Robin sunk at Galoo Rapids, St. Lawrence river. Barges Ruby and Regulator, laden with baled hay, took fire in the Detroit river near Fighting island, and were entirely consumed with their cargoes. Propeller Dictator, while lying at the dock at Manitou island, was run into by the propeller Jay Gould, causing her to sink immediately. She was subsequently raised and taken to Buffalo for repairs. Steamer Free State, 949 tons burden, of Buffalo,

while on her voyage down from Chicago to Buffalo, and during the prevalence of thick weather, struck on Gray's reef, Lake Michigan, and was totally lost together with her cargo. The Canadian scow Maggie went ashore near Goderich and proved a total loss. She was built in Cleveland by Sanford & Moses in 1847. Propeller Michigan of the Northern Transportation Line, sunk opposite Sister island, six miles below Alexandria bay. She was raised and repaired at the company's dry dock at Ogdensburg. The schooner J. L. Hurd was struck by a gale near the Manitous, sprung a leak and sunk; all hands were lost except the captain, W. O. Harrison, who saved himself by clinging to a broken spar. The Hurd sailed from Chicago to Buffalo on the 21st with a cargo of 28,000 bushels of corn. Captain Harrison's wife and child were on board. October: Schooner Montezuma sunk by the Hattie Johnson off Saginaw bay. Schooner Groton stranded in the St. Lawrence river. Schooner Major Anderson total loss at Two Rivers Point. Bark Fontanelle burned at Chicago. Schooner Levant wrecked off Sheboygan; six men drowned. Schooner Alnwick burned at Chicago. Schooner La Petite lost on Lake Huron. Schooner Geo. J. Whitney sunk at Sugar island reef. Schooner John Burt sunk at Leland Rock, Lake Michigan. Bark H. C. Winslow wrecked on Lake Michigan. The brig Mechanic, Capt. Henry McKee, bound for Chicago coal laden, was struck by a squall and foundered with all hands on Lake Michigan. Bark J. C. King sunk at Buffalo. Steamer Dean Richmond burned at St. Mary's river. Tug Eclipse burned at Lakeport, Lake Huron. Schooner Maggie Thompson sunk at Port Huron. Schooner R. P. Mason in tow of the tug Leviathan, capsized and five lives lost. Schooner Plover, of Cleveland, which left Duluth October 7, with 18,000 bushels of wheat, when abreast of Whitefish Point struck and sunk. Schooner La Petite, Capt. O. B. Smith, of Huron, Ohio, was overtaken by a gale on Lake Huron. She was bound from Alpena to Huron with a cargo of lumber. The storm drove her from her course and the seas swept her en-

tire deck-load overboard, after which she sprung a leak and capsized. Schooner Olivia, Captain Bradbeer, from Mill Point to Oswego, capsized on Lake Ontario. The crew hung to the sides of the schooner until they got the small boat loose, when they all got in and drifted ashore seven miles down the lake; the schooner sunk. Schooner R. P. Mason while being towed to Little Traverse by the tug Leviathan, capsized and five lives were lost. The sea was so rough that the tug cut her loose, after which she immediately capsized and drifted ashore. Steamer Dean Richmond, 1,416 tons burden, of Buffalo, while on her voyage from Lake Superior to Buffalo, and at the time lying at anchor in Mud lake, a part of the Sault Ste. Marie river, was totally destroyed by fire. The vessel was valued at \$75,000 and the cargo lost at \$44,480, making a total loss of \$119,480. By this disaster but one life was lost; the passengers and crew reached the shores in the small boats. November: Schooner Kate Brainard ashore and wrecked at Kincardine, Ont. Propeller India sunk at Lake George. Schooner Juliette sunk on Lake Erie. Scow H. G. Williams capsized and foundered at Cleveland; two lives lost. Schooner M. Courtright abandoned near Racine. Schooner R. P. Mason capsized and drifted on a reef in Little Traverse bay. Propeller Roanoke disabled at Long Point. Scow Curlew wrecked at Port Hope. Bark Twilight went ashore near Port Sanilac, Lake Huron, November 18, and all hands except two perished. Schooner Wm. Sanderson sunk on Lake Ontario. Schooner E. M. Portch went ashore on Beaver island, Lake Michigan, and was pulled off, but sunk when about two miles away. The crew escaped in the small boats. Steamer Meteor, while making Put-in-Bay, struck a boulder near Gibraltar Point, and sunk in seven fathoms of water. By collision between the schooner E. B. Allen and bark Newsboy off Thunder Bay light, the former was sunk. Schooner Eli Bates, which cleared at Cheboygan with a cargo of wheat consigned to G. S. Hazard, foundered in Lake Erie, between Conneaut and Ashtabula, and nine

persons perished. The Canadian schooner Pearl, 97 tons, went ashore at Napanee. she was subsequently named the Absalom Shade. Schooner Almeda, Capt. Charles Hanscom, of Buffalo, bound for Toledo with 200 tons of hard coal, went ashore near Manson dock; the force of the waves was so great that the vessel was thrown high and dry upon the beach, and the crew walked ashore. Steamer Evergreen City, 797 tons burden, of Buffalo, while on her westward-bound voyage from Buffalo, November 18, went ashore in a gale on Long Point, Ont.; the vessel and cargo considered a total loss. Bark P. C. Sherman was driven ashore at Long Point and rolled over. The crew left the vessel in a small boat and were driven out into the lake, where they lost their lives. Brig Frontier City went ashore near Kincardine, Ont., and proved a total loss. She was constructed on the hull of the brig Canton in 1860; the crew were saved. Schooner Charger, which was supposed to have gone down on the night of the Coburn disaster, was over four weeks in making the passage from Oswego to Milwaukee. Schooner Nomad sunk off Presque Isle. Schooner Dominion sunk by collision with propeller Dromedary at Hamilton. Schooner E. B. Allen sunk by collision with bark Newsboy off Thunder Bay. Schooner Jessie Anderson sunk at Long Point cut. December: Schooner Myra sunk on Lake Erie. Schooner Challenge sunk at Sheboygan. Schooner Dacotah abandoned on Lake Erie; cargo valued at \$60,000. Schooner Guide lost with all hands. Other losses of the season were the schooner Pioneer, barge Transport, bark Mainland, brig Lowell, schooner Dan Tindell, barge J. T. Warner, schooner H. T. Fairchild, schooner Gear, schooner Victoria, schooner Rosa Sterns, schooner W. S. Lyons, schooner Skylark, bark Excelsior, schooner J. S. Miner, schooner Wm. Fisk, brig Saxon, tug Ram Lewis, schooner E. Blake, schooner Phœbe, scow American Eagle, schooner Dane, scow Gold Hunter, schooner Loring, scow George Goble. The number of disasters during the season of 1871 on the lakes were 1,167. Of this number 225 were caused by collision.



280 vessels went ashore, 31 were burned, 26 capsized, 19 foundered, 132 sprung a leak, 65 were water logged, 60 were dismantled, 110 lost deck loads, and 10 exploded boilers. There were many other disasters of a minor character which are not enumerated in the above. Compared with other years the record stands as follows: 1868, total number of disasters, 1,164; 1869, 1,914; 1871, 1,167. During the season 214 persons were drowned on the lakes.

1872.

*Shipbuilding Active.*—The abundant and profitable freight that prevailed during the season of 1871 on the lakes had a tendency to stimulate shipbuilding in 1872, and many large, fine vessels went into commission, and there was general activity in shipping circles early in March.

*Phenomenon on Lake Ontario.*—A phenomenon of the most unusual kind occurred on Lake Ontario June 13, between 3:30 and 5 o'clock. There was but little wind, and that from the southeast, and the surface of the lake was quite smooth. The water would rise with great rapidity by successive little swells for 15 or 20 minutes, remain stationary for a short time, then fall with the same rapid, silent, imperceptible manner. This occurred five or six times, and then remained stationary at the lowest ebb until a gale in the afternoon came up, after which it found its normal condition.

*The shipments of oil to the seaboard* by way of the Erie canal, were begun in June in canal boats in tow of tugs. The experiment was closely watched by oil men. While it did not prove the best or most economical means of transfer, a great quantity of oil has passed through the canal since that date.

*A convention of steamboat owners* Met at Cleveland, Sept. 24, in pursuance to an invitation issued by Cleveland vessel owners, and in conformity with a resolution of the executive committee of the Steamboat Men's National Convention, held at Washington on June 11. Thomas Sherlock, of Cincinnati, chairman of the committee, called the meeting to order and was afterward chosen president; John T. Whiting, of

Detroit, and David I. Smith, of New York, vice-presidents; B. S. Osbon, formerly publisher of the *Nautical Gazette*, New York, corresponding secretary; W. L. James, of Pennsylvania, recording secretary. The convention met for the purpose of taking action to right certain abuses under which steamboat men were laboring, and resolutions were passed condemning the action of the supervising inspectors at their annual meetings in foisting upon steamboatmen certain patents and so-called improvements. Capt. J. T. Whiting produced evidence wherein it was shown that steamers had been arrested for not carrying Ashcroft's register. Mr. Whiting held that the courts were not inclined to impose these burdens on the shipping of the country, and that the Act of February 28, 1871, recommended by the supervising inspectors, should be repealed.

Capt. B. S. Osbon believed that if the executive committee of the convention should go to Washington, make a plain statement of the facts in the matter, they could do much toward having the grievances remedied. These views were adopted by resolutions and a committee appointed.

*Foundered in Mid-Lake.*—The loss of the schooner George F. Whitney, in September, was a peculiar one. She must have foundered in mid-lake, as not one of the crew of eight men were ever heard of, nor has the manner of her loss ever been known. Captain Carpenter was in command. A strange fatality seems to have hung over the Whitney for more than a year. She had been wrecked on Sugar island, on a trip from Buffalo to Chicago in 1871; was released in the spring of 1872, and reconstructed, and on her first trip she was wrecked again at Vermilion. During the next voyage she was lost with all on board. It was said that while lying at dock at Chicago, Captain Carpenter displayed all his flags at halfmast, the American ensign with union down. Upon inquiry why he did this the captain explained that it was merely an invitation for the tugs to transfer him up the river.

*Old Wreck Discovered*—Capt. Paul Pelkey, of the tug Ida Stevens, on the 21st

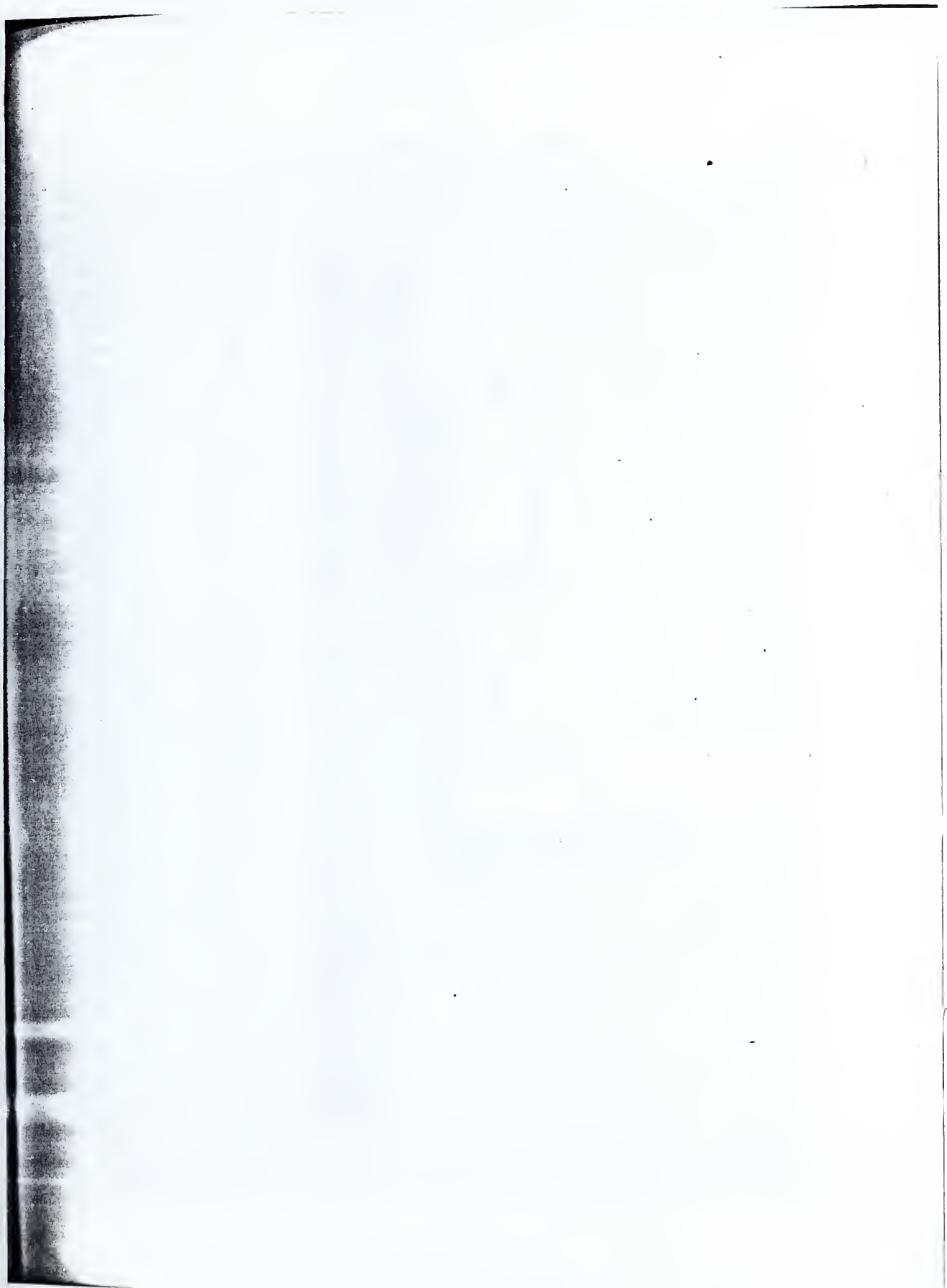


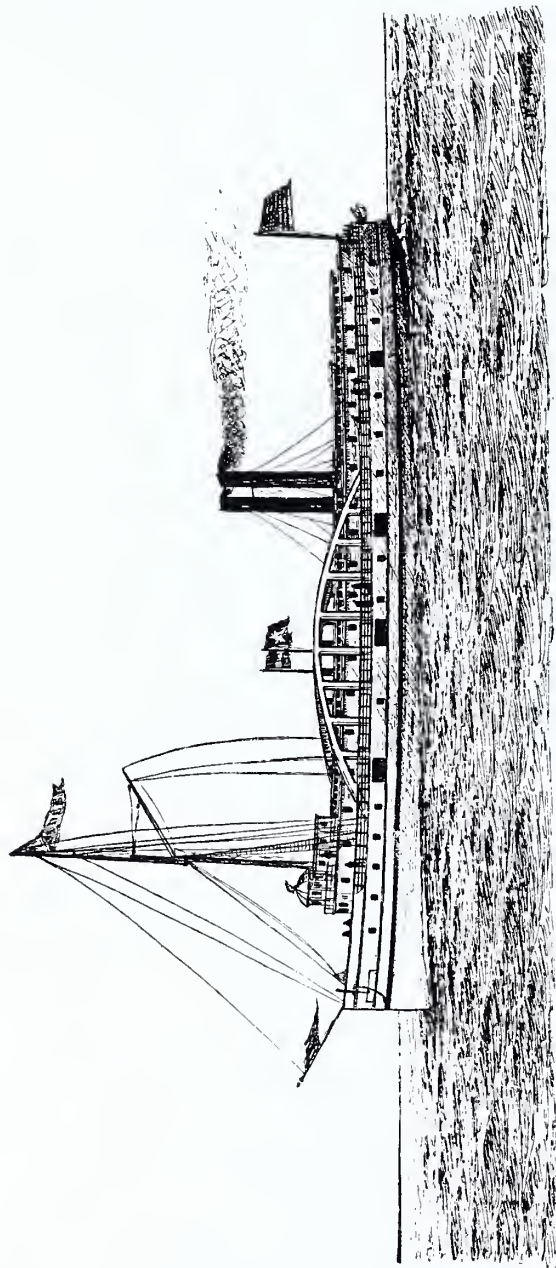
of July, discovered the wreck of the Westmoreland, sunk in the winter of 1855, near Manitou island. Being extremely cold weather, early in December, she had foundered with the accumulation of ice, in 12 fathoms of water. Captain Pelkey was mate on the Westmoreland at the time, and one of the survivors. On reaching shore he took bearings and followed the beach *via* Mackinaw to civilization. She was a new boat and measured 800 tons.

*Severe September Storm.*—During the storm on the lakes, September 29 and 30, five propellers, one tug, two barks, one brig, 18 scows, 19 barges and 47 schooners were damaged.

*Other Events of 1872.*—April: Schooner William Jones water-logged at Grosse point. Schooner Liberty wrecked at Milwaukee. Schooner Eva M. Cone ashore and total loss near Port Ulao. Bark Graham capsized on Lake Huron. Schooner Speed ran on some piles in Kenosha harbor, stoving a large hole in her bottom, causing her to sink. May: Barge Enterprise sunk by collision at East Saginaw. Tug-steamer Compound exploded her boiler and sunk at Buffalo. Scow Forest Maid damaged by collision with the propeller Granite State. Schooner Star of the North capsized near Point Pelee. Barge Somerset wrecked off Monroe. Propeller Chicago water-logged at Buffalo. Tugboat H. P. Smith totally destroyed by fire on Saginaw river while towing a raft. Propeller Manistee, on her passage from Pentwater to Milwaukee, wind southwest, weather thick, struck and sunk the schooner Samuel Robinson, bound for Buffalo with a cargo of corn. The Robinson was sixteen years old. June: Tug Odd Fellow sunk by collision with the Mystic at Sandusky. Tug J. C. Ransom capsized near Tonawanda. Propeller Maine, bound from Ogdensburg to Chicago, with merchandise, sunk at Goose bay, six miles below Alexandria bay. The schooner Jamaica, Capt. David Bothwell, which sailed from Milwaukee June 15, was caught in a whirlwind or tornado on Lake Huron and immediately capsized. The crew clung to the vessel until a small boat from the schooner Starlight went to their rescue. The Star-

light had met the same kind of accident a year or two before at that same place. The Jamaica came out in 1867 and was 318 tons burden. July: Schooner G. J. Whitney, wrecked at Sugar island last season, raised and taken to Detroit. Schooner D. L. Couch sprung a leak within 15 miles of Long Point and sunk. The crew were rescued by the schooner Citizen. August: Scow Snowbird sunk at Detroit. Steamer Ajax burned while at anchor in Saginaw bay. Propeller Riverside damaged by fire in the Detroit river. By the foundering of the schooner Louis Meeker, on Lake Huron, the captain and four of the crew lost their lives. The Meeker was a new vessel, and had a cargo of 22,000 bushels of wheat. Propeller Annie Laurie collides with a bridge at Chicago and sustains serious injuries. Tug Danforth was burned at the dock, Duluth. Brig Ocean sunk on Lake Ontario. Schooner Day Spring was struck by lightning off Ahnapee, and a sailor instantly killed. Schooner Black Duck foundered in deep water; crew saved. Schooner Fearless, Captain Speed, sprung a leak off Whitefish Point, waterlogged and capsized. Propeller Bertachy, Captain Vance, took fire at the pier at Depere, August 25, and was partially consumed. The schooner Erie sunk at her anchor off Marblehead during the gale of August 30. She was owned and commanded by Capt. John Andre; crew escaped in the small boat. The Erie was one of the old timers, having been built in 1833 at Buffalo. For many years she served as a revenue cutter, and was afterward taken to Lake Michigan and run in the lumber trade. September: Tug Bemis burned near Alpena. Barges Elliott and Foster lost at Port Burwell. Scow Louisa waterlogged at Kingston. Barge Iron City sunk at Sturgeon Bay; cargo and vessel valued at \$36,000. Barge Table Rock lost at Tawas Point. Barge Ontario waterlogged at Tawas bay. Schooner Neshoto, Capt. B. Gray, foundered off Sturgeon Point light, Lake Huron, in eight fathoms of water. Four men and one woman were drowned. The schooner Summit went ashore at Tawas Point; two lives lost. By collision between the propeller City of Fre-





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#### PROPELLER IRONSIDES.

Built at Cleveland, O., in 1864. Length over all 231 feet; tonnage 1,123; an elegant passenger propeller built for the Lake Superior line; transferred to Lake Michigan and lost at Grand Haven in 1873 with twenty-four lives.



mont, Captain Jones, and the B. R. Lummis, near Northport, Lake Huron, the latter was sunk, the crew all being lost with the exception of one man, who got on board the City of Fremont just as she struck. Propeller Dalhousie, bound from Montreal to Chicago with pig iron and merchandise, was burned, September 26, forty-five miles below Niagara river, in Lake Ontario. The crew were taken off by the propeller City of Concord. The Dalhousie was owned by the Welland Railway Company. Schooner Rapid capsized in Lake Erie during a gale, and seven men were drowned. The Rapid had a cargo of 5,000 railroad ties. The schooner Orion was one of the victims of the storm of September 1, on Lake Erie. She was built in 1853 and was owned by E. Zealand, of Hamilton, Ont. The small tug Ada was burned at her dock on the east side of Grand island. She had been used in light work on the Niagara river; she was rebuilt. The passenger steamer Galena, bound from Alpena to Chicago, ran on to North Point reef, Lake Huron, September 25, and became a total loss. She had a cargo of lumber, which was saved. The following were also lost in September: Tug: Advance. Bark: Butcher Boy. Brig: Montezuma. Schooners: Corsair, Lydia Case, Matthew McNair. Scows: Ned Robinson, Hirondeille, Granville. Barges: John H. Drake, Hunter. October: The tugboat L. H. Boale, while towing a vessel into the piers at South Haven, Lake Michigan, got the tow-line foul of her propeller wheel, which disabled her, and she drifted ashore, becoming a total loss. The passenger steamer Lac la Belle foundered about 20 miles off Racine. She sprung a leak after leaving Milwaukee, and the water gained so rapidly on the pumps that the fires were put out, leaving the steamer at the mercy of the waves. Five boat-loads of passengers and crew left the wreck and all reached shore; eight men went down with the steamer. Schooners Phalarope and Cortland abandoned near Rondeau. Schooner Narragansett abandoned at Hammond bay. Propeller China burned on Lake Ontario and sunk. Propeller Alaska, sunk at Malden, raised. Schooner Bessie Boalt went ashore

at St. Joseph, Mich., broke in two and became a total wreck. Barges Baltic and Adriatic, in tow of the tug Moore, parted lines in a gale and both went down with their entire crews off Long Point, Lake Huron. Schooner Mary Nau, Capt. S. Gunderson, foundered in a gale between Detroit and Pilot island. The schooners Libbie Nau and White Squall collided in Saginaw bay and the latter was sunk. The crew of the Squall, finding that all efforts to save her were of no avail, took to the small boat, in which for three hours they strove to reach shore, and on nearing it the boat capsized in the breakers and seven were lost. November: Barge Forest Queen lost on Lake Erie with all hands. Schooner Willis sunk by collision with the bark Elizabeth Jones near Point Pelee. Scow Idaho, sunk in Sandusky bay, raised November 22. Schooner Columbian damaged by collision with the schooner Smith & Post. Scow Forwarder sunk at Black River. Schooner Griswold lost on Lake Superior. Steamer Arctic frozen in at Portage lake. Steamer W. S. Ireland collides with the steam barge Trader at the Flats. Steamer Reynolds burned at Bay City. Propeller Carlington sunk below Bar Point. Schooner J. W. Sargeant abandoned.

1873.

*Loss of the Propeller Ironsides.*—The propeller Ironsides sank in a furious gale near Grand Haven September 15, 1873. She had been built in 1864, and had been overhauled in the spring of 1873. The Ironsides lost control of her machinery, and a flag of distress was run up, but no aid was near. The last lifeboat left the vessel shortly before she sank, but the occupants were lost in plain sight of those on shore. Twenty-eight lives were lost.

*Lost on Lake Superior.*—The schooner Gilbert Mollison was lost with all hands near the South Manitou in October. She sailed from Chicago October 25, and two days later, just prior to a terrible storm, was seen near the Manitou by the schooners Montblanc and Margaret Muir. The Mollison was 305 tons burden, and had come out in 1871. A small boat belonging to the

Mollison was found at Good Harbor November 3. The oars were lashed, and from appearances the painter had been cut.

*A terrible snowstorm* swept the upper lakes November 11, doing great damage to shipping and driving all craft back to harbor. Fortunately the loss of life was small.

*Other Events of 1873.*—In 1873 the steamers *Manitoba* and the *City of Montreal* formed a line between Montreal and Winnipeg, the *Persia* being also placed on the line the same year. May: Propeller *Arizona* sunk by collision with the propeller *Blanchard* near St. Clair Flats. June: Tug *G. W. Farrar* explodes her boiler at Port Huron and sustains injuries thereby. Steam barge *Petronolia* sunk at Sister island. July: —Canadian propeller *Georgian* damaged by fire at Ogdensburg. Propeller *Philadelphia* sunk by collision with a rock at the head of Lake Erie. Scow *Alpena* waterlogged at Cleveland. Schooners *Madeira* and *Prince Albert* damaged by collision in Welland canal. Schooner *City of Milwaukee* damaged by lightning at Cleveland. Schooner *Northern Belle* sunk by collision with schooner *Annie Vought* near Skillagalee. Schooner *Ida* struck by lightning at Manistee and injured. Tug *W. B. Aldrich* burned at Ludington. August: Steamer *Atlantic*, sunk in 1851 off Long Point, raised. Schooner *A. Rust* waterlogged by collision with a rock at Alpena. Propeller *Meteor*, sunk in Detroit river, raised and towed to Detroit. Schooners *Flying Mist* and *Mary A. Wand* collide in St. Clair river. Scow *H. G. Williams* ashore at Cedar Point and abandoned. Barge *J. D. Morton* lost on Lake Erie. Brig *Sunbury* waterlogged at Point Pelee. Schooners *Aetna* and *Gifford* collide off Thunder Bay island. Barges *Sunshine* and *St. Clair* waterlogged on St. Clair river. Schooner *Maggie McRae* sunk at Detroit. September: Propeller *Passaic* and bark *Richard Winslow* damaged by collision. Schooner *Conquest* sunk at Milwaukee. Schooner *Etta Belle* sunk off Sodus. Propeller *John A. Dix* damaged by collision with the propeller *Russia*. Bark *Erastus Corning* damaged by collision with a boulder at Bar Point. Bark *City of Painesville* damaged by collision with the propeller

Merchant at Chicago. Prince Alfred and schooner *Oriental* collide in Welland canal. Scow-schooner *Dacotah* sunk at Beaver Harbor. Bark *Cecelia* sunk by collision with the schooner *Oriental* at Point Pelee. Schooners *Skidmore* and *Argo* collide near Racine. Schooners *Annie Sherwood* and *Alva Bradley* collide at Buffalo. Barge *Juno* sunk in St. Lawrence river. Scow *Whittlesey* abandoned on the piers at Cleveland. Schooners *John Burt* and *Two Friends* damaged by collision on Lake Erie. October: Tug *Monitor* sunk at Muskegon. Schooner *Hartzell* and propeller *Vanderbilt* collide at Chicago. Propeller *Asia* sunk at Port Colborne. Tugs *Frank Moffatt* and *River Queen* collide near Port Huron. Schooner *Mary* wrecked on Lake Ontario near Charlotte. Schooner *T. B. Rice* and *Grace Whitney* collide at Cleveland. Schooner *New York* wrecked at Oswego. Tug *L. P. Smith* damaged by collision with the propeller *Benton*. Severe storm on Lake Huron. Barge *Ocean* lost at Tawas bay. Propeller *City of Boston* disabled at Mackinaw. Propeller *St. Lawrence* burned at Kingston. Bark *Frank Perew* foundered near the South Fox. Steamer *Vienna* foundered on Lake Superior. Schooner *Hippogriff* and *Josephine* collide at Chicago. Schooner *J. M. Nicholas* sunk at Pigeon Bay. Barge *David Morris* wrecked at Leamington. Barge *Globe* wrecked at same place, and barge *Saginaw* sunk. Schooner *Sultan* wrecked at Port Hope. Schooner *Champion* damaged by collision on Lake Erie. Propeller *Buckey* damaged by collision with scow *Franklin Wilcox* at Cleveland. Schooner *Pulaski* damaged by collision at Cheboygan. Tug *May* foundered on Lake Michigan. Schooner *Annabella Chambers* wrecked near Toronto. Tug *Kate Reid* burned in Saginaw river. November: Schooner *R. J. Sanborn* wrecked at Manitowoc. Scow *E. F. Gain* severely damaged by collision with the *J. P. March*. Schooner *Challenge* sunk at Milwaukee. Schooner *Hamilton* wrecked at South Harbor. Schooner *M. D. Cardington* sunk off Au Sable. Propeller *City of Boston* abandoned at Frankfort. Scow *Rosa Ann* capsized at the Flats; crew rescued by *City of*



Dresden. Tug Anthony explodes her boiler at Milwaukee. Bark Canada, of St. Catharines, bound for South America, burned near Quebec. December: Schooner Granada a total loss at Mackinaw. Tug Hector wrecked at Sugar Loaf Point. Steam barge Cormorant stranded at Fox Point Reef.

1874

*Destruction of Steamer Brooklyn.*—The steamer Brooklyn, of the Northern Transportation line, Capt. Harvey Brown, bound from Ogdensburg to Chicago, exploded her boilers near Fighting island, ten miles below Detroit, October 22. The explosion tore her apart, and she sank immediately. Five of the steamer's nine passengers were killed, and eight of a crew of 21 also perished. Many of the survivors were severely injured. The steamer sank in about 25 feet of water, only about 6 inches of her pilot house remaining above water. To this nine persons clung for safety till released by the propeller Cuba. Eight others were picked up from the water by fishing yawls from the shore. The shock of the explosion threw from their feet all who were aboard, and most of those on deck were injured by flying missiles hurled in all directions. The Brooklyn was one of the fastest boats on the line, and could make from 13 to 15 miles per hour. She was built at Cleveland in 1866, and was valued at \$45,000.

*Other Events of 1874.*—April: Propeller Granite State seriously damaged by collision with ice in St. Lawrence river. Scow Snowball capsized in Detroit river. May: Steam barge A. A. Turner sunk near Cape Vincent by collision. Schooner R. P. Mason sunk by collision near Manistee. Schooners J. K. Benson and M. L. Breck collide at Port Colborne. Tug E. M. Miller burned at Willow island. Tug Tawas explodes her boiler at Port Huron killing several of the crew. Schooner John J. Hill sunk near Lewiston. Tug Aldrich burned at Ludington. Steam barge Mary Groh sunk at Cleveland. Schooner Octavia abandoned at Kewaunee. June: Barge D. V. Bell sunk on Lake St. Clair. Schooner Enterprise capsized off Racine. Scow Dan Baker sunk near Cedar Point. Schooner

Dolphin sunk by collision with a scow at Ludington. July: The S. V. R. Watson sunk at Point Pelee. Schooner James Platt abandoned at the Straits. Tug Ransom sunk at Sandwich Point by collision with the tug Urania. Propeller Merchant sunk near Milwaukee. Scow Maria capsized and ashore near Lexington. Tug J. F. Belin explodes her boiler at Buffalo. August: Schooner Wm. Hunter, sunk at Dunkirk, raised and towed to Buffalo. Schooner Fostoria sunk near the Detour light. Schooner S. V. R. Watson, sunk at Point Pelee, raised and towed to Buffalo. Scow Shaw wrecked at Grand River. October: Barge H. H. Brown sunk at Malden by collision with rocks. Barge Sherman waterlogged on Lake Erie. Schooner T. P. Sheldon sunk off Bar Point. Steamer Latta Bernard foundered on Lake Superior. Tug Favorite sunk on Lake Erie. November: Schooner Osborne abandoned near Port Colborne. December: Propeller Rocket sunk by ice at Toledo.

1875.

*Loss of the Equinox.*—In a gale of great fury that swept over Lake Michigan September 10, 1875, the propeller Equinox, with all on board, about 25 persons, including three young ladies, was engulfed near Point au Sable. The Equinox left Saginaw September 5, for Chicago, with the schooner Emma A. Mayes in tow, loaded with salt. The gale struck them off Point au Sable about 11 o'clock on the night of September 10, blowing furiously from the northeast. The crews of both vessels were on deck. The Equinox began reeling from side to side, but kept making steam and going ahead. The gale increased. The night was pitch dark, and through the roar of the wind and waves Captain Lusk, of the Mayes, stated that he heard the sudden cry, "Cut that line." It was immediately loosened and a moment later, without sign of distress, the propeller careened over to the leeward side and went down to the depths, leaving no trace behind. The schooner ploughed onward and reached Chicago with the tidings Saturday morning. Two days later the Schooner Havana arrived at Chicago with



Reuben Burr, a survivor of the Equinox. He had been picked up Saturday morning 80 miles south-southwest of Manitou island. He was floating on the pilot house and had been thirty-one hours on the water. Burr said the sea had been frightfully rough. The Equinox began to leak aft, and all efforts to keep out the water were in vain. The water rose rapidly, and calls were made to the schooner to come alongside. Burr thinks the schooner could not have heard the cries, as the schooner was astern several hundred feet and the noise was great. Some of the men started to lower the boat on the port side, which was down in the water. The passengers and remainder of the crew were aft on the fantail. Eleven of the men had entered the boat when the vessel went down. Burr had been forward, and, with the captain, ran to the starboard side to lower the boat, when the ship went from under them. The captain caught the gangway, and Burr and the second cook managed to climb on the pilot house. The sea kept washing over them, but they held on. The next day the cook became exhausted and slipped away. Several schooners passed by, and it was not until Saturday morning that Burr was discovered by the Havana and rescued. The Equinox belonged to the Grand Trunk and Sarnia line.

*Other Fatal Losses in the Same Storm.*—The propeller Mendota and one of her consorts, the Evening Star, foundered in the same storm on Lake Michigan, with a loss of 12 lives. The Mendota and two barges, Morning Star and Evening Star, loaded with coal at Buffalo for Chicago, and left September 1. There were twenty persons aboard the propeller, including the captain's wife and the steward's wife. Early Friday morning, September 10, 1875, the Morning Star broke adrift. The arches of the propeller broke away, and she began to make water. About eight miles east of Point Sable they let go the other barge. The sea was running so high that the two lifeboats could not be launched, and when the propeller went down eight of the crew reached one of the boats and were saved, among them Captain Fairbanks. William Crossthwaite, son of the owner, had a

miraculous escape. He clung to a fragment of the hurricane deck, and after he had been in the water nearly 50 hours was picked up Sunday afternoon by the bark Naiad. When the Mendota let go the barge Evening Star, the latter was leaking. Two pumps were started, but when eight hours later Capt. James Bennett found that in spite of the vigorous pumping there were seven feet of water in the hold, he called all hands and told them they would have to abandon the barge. Up to this time she had answered to her helm, but now became unmanageable. The one boat, fifteen feet long, was launched and the entire crew of seven got away. Though the seas ran high, and the water had to be constantly bailed out, the boat was kept afloat till she reached shore, 27 hours later, at Amsterdam, Wisconsin.

*Propeller Comet Sunk by Collision.*—The propeller Comet was struck by the Canadian steamer Manitoba near Whitefish Point, Lake Superior, August 26. The collision happened about 8:40 o'clock in the evening. The Manitoba struck the Comet about 15 feet from her stern on the port side, and the shattered vessel sank within three minutes. During the excitement several of the crew of the Manitoba jumped aboard the Comet, but luckily returned quickly to their own vessel. Of the Comet's crew of 20, ten were lost. The Manitoba, which was bound up, returned with the survivors to the Sault. The Comet was owned by Hanna & Co., of Cleveland, and was valued at \$25,000. She was 18 years old, having been built in Cleveland in 1857.

*Persian Burned on Lake Erie.*—The fine four-masted propeller Persian, laden with grain from Chicago to Buffalo, burned and sank 10 miles east of Long Point, Lake Erie, August 26. She was built at Cleveland in 1874 at a cost of \$125,000, and was registered 1,630 tons. There was no loss of life.

*Other Events of 1875.*—April: Steamer Eighth Ohio sunk at Detroit. Schooner Granada, wrecked at Oswego, sold. Steambarge East Saginaw sunk off Harrisville. Lighthouse at Port Maitland destroyed by fire. May: Steambarge Swallow severe-

ly damaged by collision with the Fred Kelley at Toledo. Barge H. G. damaged by lightning off the Charities. Scow Maria sunk at Nine Mile Point. Schooner D. B. Wright capsized off South Haven. Schooners Scotia and Ontario collide near Forestville. Schooner Nina sunk on Lake Huron. June: Scow Hugh Caine sunk at Cleveland. Schooner Spray capsized off South Haven. Bark Cleveland abandoned at Pilot island. Steamer City of Sandusky collides with the barge Trader at Cleveland and sustains injuries. Severe storm on Lakes Erie, Michigan and Huron. Schooner C. Nillson disabled near Point Pelee and taken in tow by the steambarge St. Clair. Schooners Seaton and Morning Light collide at Point Albino. Schooner Petrel and scow Magdalene collide off Racine. Schooners Emmeline and R. Simmons collide off Grand Haven. July: Schooner Q. A. Gilmore sunk at Cleveland. Propeller Winslow disabled on Lake Superior and taken in tow by the tug Wilcox. Scow Juno sunk on Lake Erie. Schooner Elva capsized near Milwaukee. Scow Dixie burned on St. Clair river. Schooner Dan Marble sunk at Long Point. Schooner Sasco damaged by collision with schooner Hutchinson. Schooners Emma Mayes and Woodruff collide at Chicago. Steamer Northwest disabled on Lake Erie by accident to her engines. Scow Morning Lark capsized and sunk near Detroit. Steamer Dominion burned near Buffalo. Tug Cygnet totally wrecked near East Saginaw by explosion of her boiler. August: Barge Braley, in tow of propeller Allegheny, wrecked on Lake Erie. Schooner Pride of America waterlogged at Point Pelee. Barge D. K. Clint and propeller Pacific collide at Port Huron. Schooner Rosa Belle capsized near Grand Haven. Schooner J. F. Card wrecked at Vermilion Point. Schooner Dick Somers damaged by lightning to the extent of \$1,000. Scow C. G. Meisel waterlogged at the Charity islands. Schooners Toledo, Buena Vista and Conquest wrecked near Milwaukee. Schooner Nicaragua, sunk near Chicago in 1864, raised. Canadian steamer Algerian sunk at Split Rock; several lives lost. Tug McClellan damaged by fire

to the extent of \$5,000. Schooner Mariner sunk near Centreville. Scow Mayflower sunk off Kelley's island. September: Barge Globe waterlogged near Dunkirk. Schooner Ottawa sunk in Sarnia bay by collision with propeller Annie L. Craig. Tug U. S. Grant burned at Fox island. Schooner Onondaga sunk near Chicago. Schooner Wm. Young sunk in Detroit river. Commodore Perry's flag ship Lawrence, sunk at Erie 62 years before, raised. Bark City of Buffalo sunk at Port Huron. Schooner Marion Egan sunk by collision with schooner E. R. Williams. Schooner Emeu sunk at Tawas bay. October: Schooner St. Andrew sunk near Ranney's Bend. Schooner Grace Sherwood sunk at Port Burwell. Tug Miller explodes her boiler and sinks in Thunder Bay. Schooner Jennie Graham sunk in the Welland canal. November: Schooner Geo. Worthington sunk near St. Helena. Tug Swan burned at East Saginaw. Schooner City of Milwaukee sunk in Lake Huron. Schooner Wacousta waterlogged near the Manitous. Propeller Mohawk burned at Buffalo. Schooner A. M. Beers sunk at Manistee. Schooner Parana waterlogged and abandoned by the crew on Lake Michigan. December: Steamer Phil Sheridan burned near Buffalo.

1876.

*Burning of the St. Clair.*—The steamer St. Clair burned to the water's edge while off Fourteen Mile Point, between Ontonagon and Portage Lake Ship canal, about 2 o'clock Sunday morning, July 9. She had a crew of 15, and 16 passengers were aboard. Of this total 26 were lost. The fire was first discovered in the steamer's hold, and the flames spread so rapidly that the engineers were driven from their posts before the hose could be attached. The fire enveloped all the boats except a large yawl. As it touched the water, there was a rush for the boat, and it immediately capsized. It was righted and capsized six times, and, when finally kept right side up, contained only four of the crew. They ripped up the seats and used them for paddles and cruised about in reach of the unfortunate passengers. Only two were picked up,



one of whom was dead. Among the saved was Capt. Robert Phineas. When the fire broke out the St. Clair was five miles from shore. Most of the passengers put on life preservers, but the water was extremely cold and they soon perished. The St. Clair was brought out as a steambarge in 1866 at Algonac, and had been transformed into a steamer in 1875. She belonged to Ward's Detroit & Lake Superior line, and was on her down trip from Duluth.

*Other Events of 1876.*—January 4: Navigation still open at some Lake Erie ports. February: Propeller Depere disabled on Lake Michigan. April: Tug S. S. Coe burned at Port Austin and sunk in eleven feet of water. May: Schooner Thomas C. Street capsized near Long Point; crew rescued by the propeller Vanderbilt. Tug Enterprise sunk by collision with the Colossal. Schooner Young America struck by lightning at Cleveland. Propeller Calabria sunk near Port Maitland. Schooner Mary Grover sunk at the same place. Schooner Belle McPhee sunk off Collingwood. Schooner Australia sunk at Muskegon. Schooner Mediterranean sunk at Niagara river. Propeller Gordon Campbell and schooner Jane Bell collide off Thunder bay. Schooner Falcon sunk at Detroit. June: Tug Thos. A. Tillinghast burned near Erie. Schooner Libbie Nau waterlogged off Menominee. Bark Great West sunk at Chicago. July: Schooner Florence a total wreck at Free Soil. Schooner Eveline waterlogged near Girard. Steamer R. N. Rice and schooner E. M. Carrington collide near Cleveland. Lighthouse at Port Dalhousie burned. August: Tug Standard severely damaged by fire at Cleveland. Schooner Laura sunk near Oswego. September: Barge Wyoming sunk at Port Huron. Tug C. M. Farrar sunk at Port Huron. Schooner C. H. Walker foundered on Lake Huron. Barge Rio Grande waterlogged at Sand Beach. Steamer Lady Franklin burned at Amherstburg, Ont. Schooner T. B. Rice waterlogged at Sand Beach. October: Schooner Acorn sunk at Sand Beach. Schooner Mockingbird a total loss at Long Point. November: Scow

Perry White, sunk at Fairport, sold. Schooner S. F. Gale sunk near Cleveland.

1877.

*Adrift on Lake Michigan.*—During a severe storm November 8 and 9, the bark Great West, bound from Caseville for Chicago with lumber, became waterlogged off Waukegan. She lost her deck-load and yawl boat, and in that condition drifted along at the mercy of the winds. A raft was built on the evening of the 10th, and the crew of seven, who had been two days without food, boarded it and pushed away for the purpose of making land. But the wind shifted and the frail raft drifted north-east under a stiff breeze. All night they drifted and in the morning land was out of sight. Relief fortunately came from a fishing tug, the Black Maria, which had gone out to set nets.

*Lost on a Reef.*—The schooner Berlin, of Buffalo, struck the reef one mile above Grindstone City in the gale of November 8, and went to pieces. Four of the crew of six perished; two were drowned and two died from exposure while clinging to the wreckage. The Berlin was loaded with lumber from Marblehead to Bay City.

*Two Total Losses.*—Two losses which created considerable discussion during the closing of the season of 1877 were those of the schooners Kate L. Bruce and the Magellan. The Bruce and two other schooners were cut off from the tug Johnson off Four Mile Point, Lake Huron, during the storm of November 8. The Bruce was never heard of again, except that her yawl boat was picked up off Thunder Bay. The Magellan went down in Lake Superior, and it was suspected she had been struck by some unknown vessel.

*The Lake Carriers.*—The season of 1877 was a better one for the carriers than 1876. A few large owners made good margins, but no one was known to have cleared any large sum on sail craft. The long ice blockade in the Straits was a hindrance, and the up freights were unprofitable.

*Other Events of 1877.*—March 18: Steamer Powerful burned at Quebec. April: Tug Belle King sunk at Peach Point.



Schooner *Velocipede* capsized and broken in two near Racine. May: Schooners R. J. Gibbs and *Pelican* sunk by collision with propeller *Colorado* in St. Clair river. Schooner *Francis Berriman* sunk on Lake Huron by collision with propeller *David W. Rust*. Schooner J. P. Chapin sunk at Chicago. Tug Wm. H. Pringle burned near Port Huron. June: Schooner *Skylark* sunk in Alexandria bay, St. Lawrence river. Propeller *City of New York* collides with the schooner *America* on Lake Superior. Propellers *Maine* and *Commodore* collide in St. Clair Flats canal. July: Scow *Grand Army* capsized near Kelley's island. Barge *Dart* burned at Sandwich, Ont. Steamers *Cutler, Jr.,* and *Centennial* damaged by fire at Grand Haven. August: Schooner *Bolivia* sunk at the Harbor of Refuge. Schooner *Lillie Parsons*, sunk in the St. Lawrence river, abandoned. September: Steamer *Francis* burned near Sorel. British schooner *China*, sunk at Rondeau, is raised. Scow *Lydia Mac* sunk near Port Stanley. October: Schooner *Nettie Weaver* wrecked near Kincardine. Scow *St. Joseph* sunk in Lake St. Clair by collision with schooner *America*. Schooner *Eliza Turner* wrecked at Long Point. Propeller *Badger State* and schooner *Helen Blood* collide in a fog off Port Huron. Propeller *Tioga* burned off Point Pelee. Propeller *City of Toledo* sunk near Alexandria bay. Steamer *Chief Justice Waite* damaged by collision at Put-in-Bay. November: Bark *City of Tawas* ashore and a total loss at St. Joseph. Barge *Hickory* sunk off Leamington, Ont. Schooner *Ben Franklin* ashore and total loss at Canby reef. Schooner *Alma* sunk at Port Hope. Lady *Dufferin* sunk at Erie, raised. Schooner *C. North* waterlogged at Chicago. Seventh *Ohio* wrecked at Chicago. Schooner *Empire State* ashore and total loss at Thunder Bay. Schooner *Berlin* ashore off Grindstone City; several lives lost. Schooner J. T. Miner a total loss at Caseville. Tug *Thomas Thompson* burned on Lake Erie.

1878.

*Events of 1878.*—The season of 1878 was a good one for the regular propeller

lines on account of the large amount of merchandise shipped from Eastern cities by canal and lake. For sail craft it was an unsatisfactory year. March: Schooner G. C. Breed sunk off Manitowoc. April: Brig *Express* sunk by collision with the steamer *John A. Dix* on Lake Michigan. Schooner *Eagle Wing* sunk off Bar Point by collision with a rock. May: Barge *Lathrop* sunk by collision with a tug at Lime Kiln Crossings. June: Schooner *Tuscola* wrecked near Glencoe. Schooners *Peshtigo* and *St. Andrew* sunk near Cheboygan. Propeller *Montgomery* burned at Point Edwards. July: Schooner *Portage* sunk off Port Rowan. August: Propeller *Java* sunk off Point au Sable. October: Scow *Mary Garrett* severely damaged by collision with propeller *Blanchard*. Schooner *Daniel Lyons* sunk on Lake Michigan by collision with schooner *Kate Gillett*. Steam barge *Oakland* sunk at Ashtabula. Schooner J. G. McGrath foundered off Long Point. The schooner *Correspondent* wrecked off Dunkirk. November: Barge J. H. Ritter wrecked near Ludington. Schooner D. R. Owen ashore and sunk at Manistee. Bark *Woodruff* went to pieces at Whitehall. Barge *Erie* total loss at Hamburg. Barge *Isabella* went to pieces at Put-in-Bay. Tugs *Peck* and *Mystic* went to pieces at Cockburn island. Schooner *James R. Bentley* foundered on Lake Huron, and the Schooner *Aetna* foundered on Lake Michigan.

1879.

*A Scow Fleet Meets Disaster.*—Serious disaster overtook a fleet of four tugs, three dredges and 18 scows, which left Cape Vincent November 17, for Buffalo. They encountered a terrific gale on Lake Ontario. Most of the tugs cut loose from their tows and many were beached or sunk. They were near Oswego when the snow storm reached its height. About 12 lives were lost. One dredge, two derricks and ten scows were wrecked.

• *Loss of the Waubuno.*—The most serious disaster of 1879 was the loss of the Canadian steamer *Waubuno*, which foundered on Georgian Bay in November, with

a loss of thirty lives. The manner of her destruction is unknown. Other loss of life during the season brings the total up to about 50.

*The series of storms* which swept over the lake from November 15 to November 24, 1879, proved unusually destructive to vessel property and life. Within those dates no less than 65 vessels met with disaster exclusive of the dredging fleet. With one or two exceptions the mishaps were all due to heavy weather.

From the shipowner's standpoint the season of 1879 was generally a good one.

*Other Events of 1879.*—March 7: Scow Restless, of Racine, wrecked at Ludington. May 21: Schooner Kate Richmond raised and taken to Cleveland. June 21: Tug Satellite sunk off Whitefish Point. July: Scows Butcher Boy and S. B. Conkling damaged by lightning at Cleveland. September: Steamer Bertschy wrecked off Port Austin reef; steamer Geo. S. Frost burned at Erie. October: Tug Starkweather sunk on Lake Erie, near Cleveland; schooner Wm. B. Ogden sunk at Goderich, Ontario; schooner O. M. Bond sunk at Sand Beach; schooner Eliza Garlach, sunk on Lake Erie, raised and towed to Cleveland. November: Schooner Gold Hunter, ashore at Thunder Bay reef, went to pieces; schooner C. G. Breed capsized near Point Pelee; several lives lost, among whom was Capt. Harry Rose, of Detroit; schooner Sumatra wrecked off Cleveland; schooner Wacousta stranded at Presque Isle; schooner W. B. Phelps ashore near Glen Arbor and a total wreck; five of crew drowned; schooner Two Fannies went to pieces at Elk Rapids; steamer City of New York waterlogged at Ludington; steamer John A. Dix sunk at Manistee.

1880.

*A Memorable Storm.*—One of the storms that have great cause to be remembered in lake-shipping circles swept over Lake Michigan October 16, 1880. The weather on October 15 was warm and pleasant, the thermometer ranging from 60° to 70°. Light northerly winds prevailed over Lake Superior and southerly over Lake Michigan. The storm began about

midnight on the 16th with easterly shifting to southwesterly winds at the Straits of Mackinac, and southwesterly from Grand Haven southward. Violent southwesterly gales on Lake Michigan raged all day of the 16th and part of the 17th. The temperature dropped from 65° to the freezing point, and snow fell as far south as Chicago. The loss of life was very great, nearly 100 souls going down on the Goodrich liner Alpena, Grand Haven to Chicago. This vessel was last seen about 30 miles from Chicago. In all about 90 vessels were wrecked or badly damaged, and 118 lives were lost as the result of this storm.

*Loss of the Alpena.*—The greatest lake disaster of 1880 was the loss of the Goodrich line steamer Alpena, which went down on Lake Michigan October 16, during the severe storm alluded to above. The Alpena left Muskegon and Grand Haven on the evening of the 15th for Chicago with a fair passenger list. She had been sighted several times up to the following morning. Then, after several days of uncertainty and suspense as to her fate, wreckage drifted ashore near Holland. The Alpena was in command of Capt. Nelson Napier, who had a crew of about 22. The passenger list was about 35. A number of bodies were recovered, and the wreckage was strewn along the shore for a distance of 70 miles.

*Disaster on Detroit River.*—The new pleasure steamer Garland came in collision with the elegant steamyacht Mamie just below Grassy Island light on the Detroit river July 22. The bow of the Garland struck the Mamie just back of the wheelhouse and rode right over her amidships. There was some delay in launching a lifeboat from the Garland, and, before it had cleared, the Mamie went down; of the 24 persons aboard 17 were lost. On the Mamie was a party consisting of Rev. Father Bleyenbergh, of Holy Trinity Church, Detroit, 16 lads, who acted as acolytes or altar boys of the church, and a few friends. She was returning to Detroit from a trip to Monroe. On the Garland was a large party of Detroit Stove Works employes.

*Foundered on Lake Huron.*—The Canadian propeller Simcoe left Chicago Novem-



ber 19 bound for Collingwood and sank on Lake Huron during a gale about noon, November 24. The decks were constantly flooded and the fires were extinguished at 9 o'clock on the fatal day. It was impossible to make sail, and the crew worked manfully at the pumps and at lightening the vessel. When she commenced to founder an attempt was made to launch the lifeboat, but before it got free the propeller went down stern foremost. The upper deck and pilot house floated, but were quickly broken into fragments. The mate and two of the crew succeeded in freeing a yawl and rescued two floating sailors. They were benumbed by the cold and water, but succeeded in rowing ashore, a distance of 15 miles, landing at Providence bay. They were badly frozen when they reached shore. A number of lives were lost.

*Other Events of 1880.*—Barge Emerald sunk in Saginaw river. Schooner Athenian totally wrecked at Oscoda. Schooner Z. G. Simmons sunk at Manistee by collision. Canadian schooner New Dominion filled with water and sank at Buffalo. May: Schooner Albatross sunk in the Welland canal. Propeller Maine burned at Port Huron. July: The Propeller Cleveland took fire off Charity islands and became a total loss. The canal schooner City of Green Bay returned to the lakes after being absent on salt water for several years. During that time she visited various ports in Europe and in South America. August: Schooner Consuelo, sunk at Kelley's island, abandoned. Tug D. McFarland sunk near Port Maitland. Barge Saginaw wrecked on Lake Erie. Steamer Henry Chisholm launched at Cleveland; said to be the largest boat on the lakes. Steamer Marine City burned near Alcona. September: Schooner

Hetty Taylor, sunk near Sheboygan, abandoned. Schooner Ida Bell waterlogged on Lake Erie off Cleveland. Schooner Abbie L. Andrews severely damaged by collision with the dock at Port Huron. Schooner Jane Bell wrecked near Geneva, Ohio. Tug Jerome sunk by explosion at Grand Haven. Schooner Harvest Queen foundered on Lake Huron. Tug Katie sunk by collision at Black Rock harbor. Tug Challenge burned at East Saginaw. Schooner America sunk by collision at Two Rivers. October: Propeller Wm. J. Livingstone foundered near entrance to Sturgeon bay. Schooner Ardent a total loss at Hedgehog harbor, Green bay. Steambarge Trader waterlogged and towed to Grand Haven by the steambarge S. C. Hall. Tug Toledo sunk at Bay City. Schooner David A. Wells foundered in 50 feet of water near Chicago. Schooner Melvina sunk in St. Clair canal. Steamer Alpena wrecked on Lake Michigan. Scow Iasco sunk at Ash-tabula. Propeller Canisteo sunk by collision with the George Murray off Waughshance. Schooner Tranchemontague totally wrecked at Oswego by collision with the piers. Schooner Sweetheart sunk near St. Clair river. November: Schooner Willard wrecked at St. Joseph by collision with the piers. Schooner Norway foundered near Belleville. Barge Orontes sunk at Toledo by collision with barge McGilver. Propeller Jarvis Lord sunk near Toledo. Barges Eldorado, Wesley and Bay City foundered near Erie. Schooner Falmouth foundered at Buffalo. Barge Dictator sunk on Lake Erie. Schooners Annie Wright, American and Mont Blanc frozen in at Maumee bay. Tug Uncle Sam sunk at East Saginaw. Tug Annie, of Chicago, sunk on Lake Michigan.





## CHAPTER XL.

1881-1890.

FATAL COLLISION, 1881—OTHER EVENTS OF THAT YEAR—APPALLING CASUALTY, 1882—LOSS OF THE CLAYTON BELLE—BURNING OF THE MANITOULIN—LOSS OF THE COLLINGWOOD—OTHER EVENTS OF 1882—SEASON OF 1883—THREE GREAT STORMS—MOST DISASTROUS LOSS—LOSS OF THE WELLS BURT—THE ACKLEY GOES DOWN—BARGE AUSTIN FOUNDERS—OTHER EVENTS OF 1883—LOSS OF THE NEW DOMINION, 1884—OTHER EVENTS OF THAT YEAR—WRECK OF THE ALGOMA, 1885—BELLE ISLE—COST OF WINTER NAVIGATION—IMPROVEMENT OF NIAGARA FALLS—ORPHAN BOY LOST—CASUALTIES OF 1885—RECORD OF THE ONOKO—OTHER EVENTS OF 1885—GREAT STORMS IN 1886—OTHER EVENTS OF THAT YEAR—TERRIBLE GALE OF OCTOBER 3, 1887—GREATEST DISASTER OF THE SEASON—THRILLING END OF THE ARIZONA—STEAMER CHAMPLAIN BURNED—LOSS OF THE WALTERS—SINKING OF THE THEODORE PERRY—LOSS OF THE NIAGARA—ACCIDENT AT A LAUNCH—STATISTICS—OTHER EVENTS OF 1887—THE FIRST WHALEBACK, 1888—LOSS OF AN UNLUCKY VESSEL—WRECK OF THE ST. CLAIR—AN OLD TIMER DISAPPEARS—SEASON FREE FROM DISASTERS—STATISTICS—OTHER EVENTS OF 1888—SCHOONER MERRICK SUNK, 1889—CAPSIZED FOR THIRD TIME—A PROSPEROUS YEAR—ENCOUNTERED A WATERSPOUT—OTHER EVENTS OF 1889—SHIPBUILDING RECORD SURPASSED, 1890—MANY VESSELS STRANDED—LOSS OF THE ANNIE YOUNG—STEAMER MACKINAC GOES TO THE ATLANTIC—OTHER EVENTS OF 1890.

1881.

**A** FATAL collision occurred early on the morning of November 12, this year, about 12 miles off Dunkirk. The new iron steambarge Brunswick with coal, Buffalo to Duluth, ran into the schooner Carlingford, loaded with wheat, Duluth to Buffalo. The Carlingford was struck on the port side just opposite the foremast, and sank head foremost in about 20 minutes. One of its crew, having run back just as the vessel sank, was lost. The others escaped in the boats. The Brunswick burst in her bows, broke in two and went down about eight miles off Dunkirk. The crew of 15 took to the two boats, but one capsized and three of its occupants were lost. The Carlingford was built at Port Huron in 1869. The Brunswick was only a few months old; she was valued at \$150,000, was 1,100 tons and had been built by the Detroit Dry Dock Co.

*Other Events of 1881.*—June: The St. Albans sunk on Lake Michigan off Milwaukee. April: Steamer Desoronto sunk near Chicago. Steambarge Hilton waterlogged off Point au Sable. Schooner A. F. Gay sunk at Ottawa Point. Schooner May Richards sunk at Lime Kiln Crossing. Scow Kittie sunk at Cleveland. May: Barge Tecumseh sunk near Port Huron. Scow Mollie sunk at Sarnia. June: Schooner Sunnyside, sunk at Port Huron last fall, raised and towed to Cleveland. July: propeller Oceanica launched at Bay City: cost complete \$110,000; larger than any boat previously built on the Saginaw river. Steambarge B. T. Burroughs burned near Chicago. July: City of Winnipeg burned at Duluth. August: Schooner Monsoon sunk at Chicago. Tug A. B. Ward exploded at Chicago. September: Towbarge Northern Light abandoned at Harrisville. Steamer Westover sunk at Au Gres river.

Steamer Columbia foundered on Lake Michigan. Schooner Victor sunk in Detroit river by collision with steambarge Macy. Schooner Minnie Blakely sunk near Point Ann. Schooner M. L. Canfield foundered off Barr Point. Tug Martin Swain sunk in Detroit river by collision with the J. Gould. Tug Jerome sunk near Baby's Point. Schooner Thomas Kingsford sunk at Wellington, Ont. Schooner Ontario sunk off Port Porter. Schooner Regina foundered off Cove island. Schooner C. K. Nims sunk off Barr Point. Wreck of schooner Sweetheart sold to Capt. O. Hill. October: Propeller Clarion sunk at Lime Kilns. Schooner Erie Queen sunk at Oswego. Tug Minnie Morton sunk at Bois Blanc island. Tug Toronto Belle sunk at Toronto. Schooner Jennie Bell capsized and sunk near Chamber's island. November: Schooner A. Plugger ashore and sunk near South Haven. Steamer Brunswick collides with schooner Carlingford near Dunkirk and both sunk; seven lives lost. Schooner E. P. Boyce waterlogged at Kenosha Point. Schooner Comanche sunk in Welland canal. Schooner H. A. Lamars capsized off Fairport. Schooner Wm. B. Ogden sunk at Oscoda. Propeller Middlesex burned at Piquamery Point. Barge Cyclone sunk at Tonawanda. Barge H. M. Baker waterlogged at Cleveland. Barge Joseph waterlogged on Lake Erie. Schooner G. D. Norris waterlogged at Beaver Harbor. Steamer Northern Queen wrecked at the mouth of Manistique river. Propeller Lake Erie sunk by collision with propeller Northern Queen off Poverty island. December: Schooner De Dondres sunk at Omena.

1882.

*Appalling Casualty.*—The most appalling casualty of the season of 1882 was the loss of the Canadian steamer Asia, of the Northwestern Transportation Company. She had taken the place of the Manitoulin, burned in May, and was a "canaler" of 350 tons burden, built in 1873. She had been sunk in 1881, but was raised and repaired. The Asia left Collingwood September 13 for French river and the Sault. Of the passengers and crew aboard only two

were saved—a young passenger, D. A. Tinkis, of Manitowaning, and Miss Christy Ann Morrison, from near Owen Sound. The loss of human life was estimated to have exceeded 100. Tinkis, who was 17 years of age, says he had gone aboard the Asia at Owen Sound about midnight, September 13. At 11 o'clock the next morning the storm broke. Panic soon seized the passengers, and the vessel slowly foundered. All who could climbed on the hurricane deck. Three overcrowded boats were shoved off, and young Tinkis was in one of them. Thinking it overfilled he swam to the metallic boat, in which were Capt. J. Savage, the mate and others. He managed to get in at one end and Miss Morrison sat at the other end. Tinkis let go every time the lifeboat rolled over, but always caught on again. Miss Morrison was equally fortunate. They thus clung to the boat till it drifted ashore, 20 miles distant. An Indian was given the young man's watch to pilot the two survivors to Parry Sound.

*Loss of the Clayton Belle.*—The schooners Clayton Belle and Thomas Parsons collided on Lake Huron, ten miles from Port Huron, April 10, and the former sank to the bottom in seven minutes, carrying down four of the crew. Three of the crew escaped by leaping aboard the Parsons. Capt. Fred Colvin and three others were below when the Parsons struck her on the quarter. They rushed up and launched a boat, but it became entangled in the wreck and sank. The Clayton Belle was bound from St. Ignace to Erie with pig iron. She was built at Clayton in 1863, and was 300 tons burden. The Parsons, bound up with coal, was injured and towed into Port Huron.

*Burning of the Manitoulin.*—The Canadian passenger steamer Manitoulin burned with great loss of life off Shoal Point, Georgian Bay, May 18. Captain Campbell was at the dinner table when the fire was discovered, and immediately ran up to the hurricane deck and ordered the wheelsman to "hard starboard" and steer for shore, two miles distant. The first engineer at the great risk of his life, jumped

down into the engine room and put on all steam. The fire had made great headway below deck, and the passengers becoming panic-stricken many jumped overboard and were lost. A boat was lowered, but it was so overcrowded that the davits gave way and plunged the occupants into the bay. The Manitoulin had by this time almost reached the shore, and was quickly beached. The loss of life was estimated at between 25 and 40.

*Loss of the Collingwood.*—The schooner Collingwood, loaded with cedar posts and going from St. Helena to Chicago, encountered a gale November 23, and becoming waterlogged, went over on her beam ends and kept that way for about an hour. The deck finally burst up, and she went down head first. The crew of eight clung to the taffrail, and after the boat went down four succeeded in getting upon a raft, Captain Willits and three of the crew perishing in the water. One of the survivors became a maniac and died. After enduring exposure and hunger upon the raft for 31 hours, the three survivors were picked up in an almost exhausted condition by the propeller Wisconsin and taken to Milwaukee.

*Other Events of 1882.*—The new steamer H. J. Jewett, in November, made the run from Buffalo to Milwaukee in 2 days, 14 hours and 15 minutes, then said to be the fastest trip between those ports on record. The Montreal & Kingston Company reported the season of 1882 the poorest in 14 years. The autumn of 1882 was generally conceded among old vesselmen to have been the best for navigation that they had known for many years previous. A furious gale swept over the lakes November 23-24. The big schooner J. W. Doane went to pieces at Buffalo, and many other vessels were wrecked or seriously injured. March: Steam-barge Grace Patterson ashore at Twin River Point; total loss. Schooner Christie totally wrecked near Ludington. Tug Uncle Sam destroyed by ice in the Straits. April: Little schooner Queen of the West totally wrecked at Bailey's Harbor. Steam Yacht Angelique a total loss at entrance to Dunkirk harbor. Schooner Espinola totally wrecked at Chicago.

Schooner Nellie Teresa totally wrecked at Big Sandy, Lake Ontario. Schooner Galatin foundered off Point Pelee. Schooner May Queen totally wrecked at South Haven. May: Steam-barge Prindiville wrecked near Oscoda. Schooner J. J. Hill waterlogged at Detroit. Steamer American Eagle explodes her boiler near Kelley's island; three men were killed. Schooner Rocket capsized and water-logged off Frankfort. June: Schooner Industry wrecked in a storm off South Haven June 3, and crew of three were lost. Schooner J. P. de Cou-dres totally wrecked at Milwaukee. Barge Vanderbilt burned in Georgian Bay, and beached on Serpent island. Tug Colton sunk by collision at Marine City. Steam-barge Araxes sunk near Prentiss bay. Tug Ben Drake sunk at Peshtigo. Propeller Hickox sunk at Chicago by collision with propeller Albert Soper. July: Scow Champion sunk by the schooner W. L. Higgin near Marine City. Schooner L. B. Wilson sunk near Racine by collision with the steam-barge Campbell. Schooner Sam Cook ashore in Jones' Narrows, Lake Erie; total loss. August: Steam-barge Thomas Kingsford sunk at Belleville, Ont., by collision with the steam-barge Saxon; total loss. Schooner Mountaineer ashore at Tyrconnell; total loss. Canadian schooner Florida sunk in Lake Erie. Propeller Chicago No. 1 burned to the water's edge off North Fox island, Lake Michigan. Steam-barge Albert Miller burned off Point Sable. Tug Mockingbird sunk by collision with tug Gladiator in Detroit river. September: Schooner Russell sunk in St. Mary's river by collision with propeller Northerner; three lives lost. Tug Mary Anna totally wrecked at Owen Sound; captain and engineer lost. Schooner St. Andrews sunk on Lake Erie. Schooner Mockingbird totally wrecked near Charlevoix. Canadian schooner Nellie Sherwood foundered in Georgian Bay; all on board, five in number, lost. Steamer Picton totally wrecked off Rondeau Point. Steamer Richelieu explodes her boiler near Montreal, three persons killed and seven badly injured. Schooner C. H. Barton ashore on Fisherman's shoal. October: Barge George



H. Ely sunk near Detour; total loss. Little steamer Grace ashore on Whitefish Point; two lives lost. Schooner Little Georgie burned off Milwaukee. Schooner Contest ashore on at Whitehall; total wreck. Tug Wetzel, of Racine, explodes her boiler ten miles from Milwaukee, total loss; all on board lost. Schooner Frank Crawford ashore at Parent's bay; total loss. November: Propeller Josephine Kidd burned on Georgian Bay. Schooner Canada wrecked off Colchester reef; total loss. Barge City burned by incendiary fire at Toledo, no one aboard. Small schooner Lady Elgin capsized near Chantry islands, Lake Ontario; all on board, three in number, lost. Propeller Dromedary totally destroyed by fire in Burlington bay, Lake Ontario. Tug Cygnet burned to water's edge at Cheboygan. Schooner Skinner ashore at Grand Haven; total loss. Schooner Tom Sims a total wreck at Pierrepont. Schooner Enterprise a total loss at West Point, Ont. Schooner Morning Light total wreck on clay banks south of Ludington. Schooners General Sigel, Eclipse and J. O. Moss ashore at Big Point Sable; total wrecks, two lives lost. Schooner Montauk total wreck on North Manitou island.

1883.

The season of navigation for 1883 was disastrous, both in loss of life and property. Fully 100 craft of all descriptions became total losses, while the aggregate damage to shipping reached \$3,000,000. About 200 lives were lost.

*Three Great Storms.*—At the opening of navigation in this year, and for several months after, dense fogs prevailed and many collisions and other mishaps occurred. There were three great storms. The first began May 20 and lasted three days. It was confined chiefly to Lakes Michigan and Huron. On the former fully 100 vessels were damaged and four totally demolished. An equinoctial gale swept over the lower lakes September 25, causing many disasters. The most fearful storm of the season began November 11, and lasted nearly two weeks. During that brief season the loss to shipping

exceeded the combined losses of the entire seasons of 1881 and 1882. The actual damage to vessel property was estimated at \$1,150,000. About 100 lives were lost.

*Most Disastrous Loss.*—The most disastrous loss to life for the season resulted from the foundering of the passenger propeller Manistee, which went down in mid-lake on Lake Superior, November 16, with 23 lives. The Manistee was engaged in the Lake Superior trade, running between Duluth and Portage and touching at all intermediate mining ports. She left Duluth Saturday, November 10, and laid at Bayfield all through the northwest gale from Sunday until Thursday at midnight, when she left. She is supposed to have been struck by a southwest gale between the Apostle islands and Ontonagon. Wreckage of the boat was found several miles from the latter harbor. All aboard perished, consisting of the crew of nineteen and four passengers.

*Loss of the Wells Burt.*—During the fierce gale of May 20 the schooner Wells Burt was wrecked off Evanston and her entire crew of 10 perished, including Capt. Thomas Fountain. The Burt was built in 1873 and was of 756 tons burden. She was a full-rigged, three-masted schooner, and was loaded with coal for Chicago.

*The Ackley Goes Down.*—One of the most serious November disasters was the loss of the large and substantial steamship H. C. Ackley, which foundered on Lake Michigan, nine miles from Holland, Mich., November 12. Of her crew of 17, six, including Capt. Edward Stretch and the first mate, John Kingston, were lost. She had left Chicago with grain for Buffalo, and encountered severe weather, which carried away her sails. She had discovered the tug Protection in distress off Racine and gave her a line, but later the tug slipped the line. The Ackley began to fill and settled rapidly. When she sank the crew jumped. The schooner Driver, five miles distant, bore down on the wreckage and picked up the survivors. The Ackley measured 1,187 tons, and was built in 1881.

*Barge Austin Founders.*—The barge Austin, of Wallaceburg, 200 tons register, foundered at Port Austin, Saginaw bay,

November 20, while on a voyage from Sarnia to Port Arthur with a cargo of railroad supplies. Seven lives were lost by this casualty. The vessel had been ashore, and was being towed to port for repairs when she suddenly sank.

*Other Events of 1883.*—April: Schooner Speed, 104 tons, built in 1848, ashore and totally wrecked near Racine. Schooner S. Bates, 139 tons, built in 1857, total loss near Winnetka. Schooner Arrow, 65 tons, built in 1855, total loss at Two Rivers. May: Schooner Allen, 155 tons, built in 1862, struck by lightning and burned at Muskegon. Schooner Jennie Lind, 110 tons, built in 1848, wrecked with lumber near Chicago; four lives lost. Schooner H. B. Burger, 181 tons, built in 1875, ashore and totally wrecked with lumber cargo near Chicago. Schooner Sailor Boy, 76 tons, built in 1866, ashore and wrecked with lumber cargo at Milwaukee. Tug Gardner, 108 tons, built in 1872, burned on Lake Ontario. Schooner Benica sunk by collision at Cape Vincent, Lake Ontario. Schooner B. Everleigh, 137 tons, built in 1866, ashore and total wreck, with coal cargo, at Point Pelee. Barge Orontes, 557 tons, built in 1856, ashore and totally wrecked with lumber cargo at Point Edward, Lake Huron. Barge Clematis, 179 tons, built in 1863, ashore with lumber cargo and wrecked at Point Edward. Tug W. H. Doan sunk at Cleveland. Schooner Corsican abandoned. Steambarge Westford sunk by collision with schooner Grace Holland in Detroit river. Scow S. B. Conklin sunk at Black River. Steamtug Mary Ann, of Goderich, 6 tons register, foundered 12 miles east of Tobermory, Georgian Bay; two lives lost. Schooner Kate Howard capsized near Evanston. Schooner Eliza Quinlan, ashore near South Bay Point, abandoned. Scow H. Hyde a total loss at Point aux Barques. Schooner J. Boyce burned at North Muskegon. Schooner John Tibbetts sunk at Fairport. Schooner Eliza capsized near Milwaukee. Barge C. G. Meisel waterlogged and abandoned off Lexington. Schooner Mary Ellen Cook waterlogged near Chicago. Propeller Shickluna sunk near Algoma Mills. June: Tug Vul-

can, 249 tons, built in 1868, burned in mid-lake on Lake Erie. Schooner Escanaba, 414 tons, built in 1866, foundered on Lake Erie with cargo of ore. Schooner J. R. Benson, 370 tons, built in 1873, foundered on Lake Erie. Steamer Meteor sunk at Spanish river. Tug Crawford sunk in St. Clair river. Tug Alert burned at Milwaukee. Propeller Canada sunk near Rockport. Schooner Tempest sunk at Ahnapee. Steamer Spartan abandoned at Caribou island, Lake Superior. Barge Tuscarora sunk at Fair Haven. July: Schooner Emma, 110 tons, built in 1853, sunk on Lake Michigan. Schooner A. Piffany foundered on Lake Michigan near Chicago. Schooner Parsons, 217 tons, built in 1856, foundered with coal near Charlevoix. Schooner McClellan, 29 tons, built in 1877, foundered with stone cargo on Lake Huron; four lives lost. Propeller M. Jarecki, 645 tons, built in 1867, ashore and totally wrecked at Point au Sable, ore cargo. Schooner Seabird, 139 tons, built in 1857, foundered in Lake Michigan with her entire crew of nine persons. Schooner Wanderer sunk at Kincardine. J. B. Spaulding sunk at Rondeau. Steamer Oregon severely damaged by fire at Cleveland. August: Schooner Sunnyside, 563 tons, built in 1863, foundered with ore cargo at Fox island. Canadian propeller Glenfinlas, 447 tons, built in 1851, burned at St. Catharines; total loss. Schooner Dot, 300 tons, built in 1865, sunk with ore cargo at Grand Morais. Scow Finch sunk in Lake Erie. Schooner Edith Sewell sunk off Wolf island. Steambarge Nellie Torrent sunk on Lake Michigan. Steamer Mary explodes her boiler. Steamer Charmer sunk off Chicago. Ferry Beatrice burned on St. Clair river. September: Schooner Yankee Blade, 256 tons, built in 1855, foundered with ore near Skillagalee. Schooner Spy, 74 tons, built in 1858, wrecked on Lake Michigan. Canadian schooner Picton, 181 tons, built in 1867, wrecked on Lake Ontario while laden with ore. Canadian schooner Pearlless, 256 tons, built in 1855, sunk with ore cargo at Picton, Lake Ontario. Barge Baldwin sunk with stone cargo on Lake Erie. Steamer Queen Victoria, 349 tons, built in 1868, burned at Chatham, Lake Erie. Propeller Oakland.



311 tons, built in 1867, sunk with lumber on Lake Erie. Schooner W. H. Vanderbilt, 520 tons, built in 1867, foundered with ore cargo at Long Point. Schooner Explorer foundered with salt cargo on Georgian Bay; five lives lost. Barge William Raynor, 227 tons, built in 1862, ashore with lumber and total loss, near Lexington, Lake Huron. Schooner Starlight, 307 tons, built in 1856, lost on the rocks in Georgian Bay. Propeller Ontonagon, 682 tons, built in 1856, burned on Detroit river. Propeller East Saginaw, 350 tons, built in 1866, foundered and total loss at Sand Beach. Barge William Treat, 389 tons, built in 1856, ashore with lumber cargo, and total loss at Point Albert, Lake Huron. Schooner Laura Belle ashore and wrecked with coal cargo near Marquette. Schooner Peerless sunk near St. Peter. Barge Frontenac sunk near Kingston by collision with barge Senator. Schooner Pilot sunk by collision with schooner Hallaran off Port Washington. October: Schooner N. Church, 123 tons, built in 1868, sunk with lumber near Sheboygan, Mich. Schooner Petrel, 151 tons, built in 1847, sunk with wood cargo near Sheboygan. Schooner Dart ashore and total wreck, near Two Rivers. Schooner Mary Nau, 136 tons, built in 1864, total wreck at Grand Haven. Schooner Ketchum, 177 tons, built in 1855, wrecked with lumber near Gill's Pier, Lake Michigan. Canadian barge John Marsh sunk on Lake Ontario. Propeller Oneida, 1,070 tons, built in 1862, sunk near Clayton, Lake Ontario. Steamer City of Toronto, 512 tons, built in 1865, burned at Point Dalhousie. Propeller J. Davidson, 1,456 tons, built in 1874, ashore and totally wrecked with coal cargo at Thunder bay, Lake Huron. Schooner Nellie Gardner wrecked on Thunder bay. Canadian schooner Julia sunk on Lake Ontario. Schooner Mary Ann wrecked at Grand Haven. November: Schooner Monitor, 323 tons, built in 1864, ashore and totally wrecked with ore cargo at Seul Choix, Lake Michigan. Schooner L. J. Clark, 293 tons, built in 1863, total wreck at Cross Village, Lake Michigan; three lives lost. Schooner Banner, 72 tons, built in 1864,

sunk near Sturgeon Bay. Schooner Guiding Star, 324 tons, built in 1869, totally wrecked on rocks with coal at Point Vilas, Lake Michigan. Schooner Maria, 104 tons, built in 1866, lost on rocks near Hedgehog. Schooner Ashtabula, 75 tons, foundered near Milwaukee. Schooner E. Jones, 646 tons, built in 1867, wrecked with corn cargo near Racine. Propeller Norman, 389 tons, built in 1864, wrecked near Pentwater. Schooner Potomac, 208 tons, built in 1842, wrecked with lumber at Frankfort. Schooner Arab, 158 tons, built in 1854, foundered on Lake Michigan; one life lost. Schooner Clara Barton, 403 tons, built in 1867, wrecked with corn cargo at Grand Haven. Schooner Flying Mist, 316 tons, built in 1861, sunk with ore near Frankfort. Barge Monitor, 307 tons, built in 1862, wrecked with coal at Manitou. Schooner Gipsy, 131 tons, built in 1882, wrecked at North Bay, Lake Michigan. Canadian barge Milwaukee, 385 tons, built in 1872, foundered on Lake Ontario with coal cargo; total loss. Schooner F. Howard, 126 tons, built in 1859, wrecked with barley at Salmon Point, Lake Ontario. Canadian schooner Eureka, 211 tons, built in 1858, foundered on Lake Ontario with coal cargo. Propeller Mayflower, 415 tons, built in 1852, wrecked with lumber at Long Point. Schooner Consuelo, 145 tons, built in 1851, wrecked by collision at Sandusky. Schooner Leadville, 343 tons, built in 1879, wrecked at Long Point with coal cargo. Schooner J. Wade, 273 tons, built in 1873, foundered with wheat cargo at Long Point; seven lives lost. Schooner H. F. Merry, 230 tons, built in 1869, wrecked with wheat cargo at Silver island. Schooner E. Fitzgerald, 297 tons, built in 1870, wrecked with wheat at Long Point; seven lives lost. Schooner Maple Leaf, 141 tons, built in 1867, wrecked with coal near Buffalo. Steamer Eclipse, 74 tons, built in 1878, foundered while towing on Lake Erie; 7 lives lost. Schooner Nemesis, 78 tons, built in 1870, wrecked at Bayfield. Schooner Starlight, 307 tons, built in 1856, foundered on Lake Huron; four lives lost. Canadian tug Erie Belle, 292 tons, built in



1862, exploded boiler at Kincardine; four lives lost. Canadian schooner Cecilia, 298 tons, built 1865, wrecked on Lake Superior. Schooner Wabash, 315 tons, built in 1873, wrecked with coal cargo at Pictured Rocks. Tug Ontario burned at Port Huron. Tug Thomas Coleman burned at Amherstburg. Steambarge I. W. Snook sunk at Grand Haven. Schooner China wrecked on Georgian Bay. Propeller St. Paul sunk at Detroit. December: Tug Castle damaged by fire at Port Huron. Steambarge Enterprise sunk on Lake Huron; several lives lost.

1884.

*Loss of the New Dominion.*—One of the most disastrous events of the season in loss of life was the foundering of the schooner New Dominion in Lake Erie October 26. She carried down to death six of her crew.

The steamer Massachusetts discharges 1,618 tons of ore at Chicago in six hours, September 22, which was considered a notable performance at that time.

During the season of 1884 a large quantity of grain was damaged, including 126,800 bushels of wheat, 111,500 bushels of corn, 57,565 bushels of oats, 11,000 bushels of barley and 6,700 bushels of rye, making a total of 313,565 of all kinds.

*Other Events of 1884.*—April: Navigation opened April 3, between Cleveland and Detroit. Tug P. Smith explodes her boiler at Vermilion; three men killed. Steamer Business damaged by collision with schooner I. N. Foster at Cleveland. Tug Caroline Williams burned and sunk at Big Point Sable. The railway steamers Great Western and Michigan Central collide on Detroit river. May: Tug Alanson Sumner burned at Oswego. English-built steamship Alberta arrived at Detroit *en route* to Owen Sound. Steamer Argyle sunk during a severe storm. Schooner M. J. Cummings severely damaged in a storm on Lake Ontario. Steambarge Alcona severely damaged by explosion of her boiler at Detroit. June: Yacht Verve arrived at Chicago from Scotland. A raft containing 3,000,000 feet of logs broken up on Lake Erie,

which caused much annoyance to vessels. Schooner Nellie P. Downey sunk near Oswego. Steamer Imperial sunk at Chicago. Steambarge S. C. Hall sunk at Sand Beach. Steamer Prince Edward burned on Lake Ontario. July: Tug N. P. Sprague, 27 years old, sunk off Point Pelee. Steamship Alberta and steamer J. M. Osborn collide on Lake Superior; the latter was sunk; three lives lost. Revenue Cutter Fessenden sunk near Prentiss Bay. Steambarge J. M. Osborne sunk by collision with the Alberta near Owen Sound. Tug Relief burned at Sandusky. Steamer Daisy burned at Ham-tranck. August: Schooner Eugenia capsized on Lake Michigan. Schooner Alaska aground at Bois Blanc island. Schooner Defiance sunk at Port Dalhousie. Propeller Chicago exploded her boilers at Buffalo. Tug Pacific exploded boilers at Ashland, Lake Superior, the engineer losing his life. September: Barge W. R. Taylor sunk at Huron Bay, Lake Superior. Steambarge Henry Howard burned off Herson's island. Propeller Potomac sunk at Buffalo. Tug Black Ball sunk by collision with the barge A. E. Wilds at Chicago. Tug Myrtle sunk near Put-in-Bay. Tug Bartlett sunk at Bay City. Schooners Thomas Howland and Eliza Gerlach collide at the Sault. Schooner Capella wrecked at Chicago. Steamer Saguenay burned on the St. Lawrence river. Schooners John T. Mott and Monticello collide in Pigeon bay, Lake Erie. The former was coal laden and proved a total loss. Heavy northwest gale on the lakes. September 24, doing much damage to shipping. Schooner Golden Rule capsized in Lake Superior; the captain and one man drowned. October: Steamyacht Pastime arrived at Detroit from New York City. Steamer Onoko made the trip from Chicago to Buffalo, discharged 100,000 bushels of corn and took on a cargo of coal in four days and three hours. Schooner King Sisters, built in 1862, wrecked on Gull island, Lake Erie; she had on a cargo of wheat. Propeller Scotia (iron) wrecked at Keweenaw Point, Lake Superior. Golden West, corn laden, was wrecked on Snake island, Georgian Bay, after 23 years of service. Schooner Christine Neilsson wrecked at Bailey's

Harbor; she was 13 years in service. Propeller City of St. Joseph was destroyed by fire at Benton Harbor, Lake Michigan. Schooner Arabia, built in 1852, was wrecked at the entrance to Georgian Bay with a cargo of corn. Schooner Kittie Grant wrecked on Lake Michigan, involving a loss of four lives. Scow Bedford sunk in Detroit river. Schooner Westside wrecked near Port Colborne by collision. Propeller B. W. Blanchard severely damaged by fire at Milwaukee. Schooner Shandon sunk in Georgian Bay. Steambarge Victoria sunk at Kettle Point, Lake Huron. Propeller Georgian sunk in Georgian Bay. Steamer Olive sunk after burning to the waters edge at Toledo. November: Steamer N. Bowlin sunk off Washburn. Propeller Peerless damaged by fire to the extent of \$500 at Chicago. Barge Plymouth Rock burned at Detroit. Canadian propeller Cuba sunk in Alexandria bay. Tug Phoenix burned at Detroit. Steamer Grace Grummond burned at South Haven, Lake Michigan. Low water in Welland canal caused frequent delays. Schooner L. Van Valkenburg arrived at Milwaukee after a passage of 36 days from Buffalo. December 6: Navigation closed at all points, and ice in large quantities running in Detroit river; 31, tug Admiral explodes her boiler at Chicago, by which all hands lose their lives. The Flint and Pere Marquette steamer, No. 1, carried against the piers in Ludington in a gale, breaking off her check valve, scalding a fireman fatally and another seriously. The boat sunk in 14 feet of water, involving a total loss of cargo; the vessel was subsequently raised.

1885.

*Wreck of the Algoma.*—The Algoma, one of the splendid steamships owned by the Canadian Pacific Railway Company, left Owen Sound November 5, 1885, and on the 6th a heavy gale sprang up. On the 7th the Algoma struck on Isle Royale, shortly afterward becoming a total wreck. Thirty-eight of the passengers and crew were drowned. The sister ship, Athabaska, picked up part of the crew and two passengers on Isle Royale in a perishing condition. The

steamer, which cost \$250,000, proved a total loss.

*Belle Isle*, situated at the head of the Detroit river, and which for many years bore the appellation of Hog island, was in 1885 laid out into a beautiful park, and before navigation fairly set in it was in shape for pleasure seekers. A few years previous it was purchased by the city of Detroit from the heirs of an old French family at a cost of \$200,000.

*Cost of Winter Navigation.*—It was estimated that it cost the Grand Trunk Railroad Company \$720,000 to keep up their lake connections between Grand Haven and Milwaukee during the winter of 1884-85. This amount is made up of the following items: Loss of steamer Michigan, \$150,000; injury to the Wisconsin, \$40,000; cost of delay in business, \$500,000; expense of dynamite and keeping the channel open, \$25,000; loss by idle laborers on docks, \$5,000.

*Improvements at Niagara Falls.*—The grounds about Niagara Falls were at one time very romantic and beautiful, but that was when they were in a state of nature. Finally by the destruction of the timber and the building of manufacturing establishments they lost much of their attractiveness. Lord Dufferin, Governor-general of Canada in 1878, conferred with Governor Robinson, of New York State, with reference to the forming of an international park about Niagara Falls. Governor Robinson the next year urged the Legislature of the State to investigate the question.

An Act of the Legislature providing for the appropriation of the necessary land was defeated in the State Senate in 1880; but a society was organized to take charge of the question. Through their efforts a Bill was passed in 1883. A commission was empowered to condemn the lands needed, this commission adopting, in the main, the plans which had been previously adopted. The lands selected were surveyed and appraised at a value of \$1,433,529, and this amount was appropriated in a Bill passed in 1885. This Bill declared that the lands are purchased by the State, that they may be restored and kept in a state of nature, and that every part of them shall forever be free



to all mankind. The lands were with great form and ceremony transferred to the State, July 15, 1885, in the presence of many distinguished officials from both Canada and the State of New York and other portions of the United States.

*Orphan Boy Lost.*—The schooner Orphan Boy, loaded with lumber, was caught out late in the season of 1885 by a severe storm December 17, and went down in Lake Michigan with her crew of twelve.

*Casualties of 1885.*—Involved in the 228 casualties recorded during the season of 1885 are 138 schooners, barges and scows, 62 propellers, ten steamers and 18 tugs. A notable cause of disaster when compared with previous seasons, is that of fire on tugs and other small steam-propelled vessels. The list of total losses comprised 77 vessels. The loss of life, by the several casualties is 85, the single disaster most fatal to the greater number being that of the wrecking of the Canadian Pacific railroad steamship Algoma.

*Record of the Onoko.*—The iron propeller Onoko, the largest steamer on the lakes, arrived at Buffalo with 87,400 bushels of wheat. This was 9,000 bushels more than were ever taken out of a Duluth elevator in one bottom. The Onoko with the largest net cargo of ore, 3,073 tons, Escanaba to Athtabula, reached the latter port June 19th, without experiencing any trouble from lack of water. The Onoko passed through the Sault Ste Marie canal in September with 92,013 bushels of wheat, 2,760 tons. It is officially noted that that is the largest cargo ever carried through the canal in one bottom since its construction.

*Other Events of 1885.*—Daniel F. Miller and P. H. Daily received gold medals, and David Miller a silver medal, for bravery in rescuing the crew of the schooner H. C. Ackley in November, 1883. Lake Ontario, which was never before within the recollection of man frozen entirely over, was a frozen sea in March, 1885. The preliminary steps in the organization of a vessel-owners association were taken at Buffalo May 25. The title selected was The Lake Carriers Association. The dull times among vessels resulted in a large number of vessels leaving the lakes for the seaboard. March:

Captain Prindiville reached Grand Haven March 22 and reported the loss of his propeller Michigan of the Grand Trunk line. The steamer sank, but her crew were taken off by the tug Arctic, which was near at the time. The Michigan had been locked in the ice nearly four weeks. She was an iron steamer, built in 1882, and of 1,183 tons burden. May: Schooner City of Toledo sunk at Milwaukee by collision with the propeller Chicago. Tug Carrington burned at Keweenaw bay. Barge Peck sunk at Sand Beach. Schooner Houghton stranded at Hog Island reef. Steambarge Annie Laurie and steamer City of Milwaukee collide off Grand Haven. The Canadian barge Sylvester Neilon arrived at Frankfort with square timber, destined for Liverpool for ship-building purposes. The tug Kate Moffat was burned May 30 near Presque Isle, Lake Huron, and proved a total loss. The crew were rescued by the crew of the schooner Metropolis, which she had in tow. June: The barge Buckeye was burned near Georgian Bay. Steamer Peerless burned at Montebello. Schooner John J. Hill sunk at Fairport. Schooner J. G. Masten stranded at South Fox island. Schooner Grant sunk on Lake Ontario. Tug American Eagle burned at Cleveland. Schooner Mont Blanc sunk near Stag island by collision. Barge Williams sunk on Lake Ontario. July: Schooners White Star and Polynesia damaged by collision at Grosse Point. Schooner S. J. Tilden sunk at Beaver Harbor. Tug E. L. Anthony burned at Chicago. Tug C. E. Bolton sunk at Cleveland. Steamer Isle Royal sunk near Susick island. The Canadian steamship Alberta, with troops returning from the Indian troubles in the Northwest, arrived at Sarnia July 24. Barge Antelope burned at Saginaw. The schooner Jane capsized off Little Point Sable. The captain was the only person on deck, and his sons were asleep in the cabin. The captain was thrown into the lake, but he clambered on the wreck, opened the door, dived into the cabin and brought the boys out. The Canadian propeller Quebec struck a rock near the mouth of the Sault river and sunk in 125 feet of water. She had a cargo of flour and a large passenger list.



The passengers and crew were taken off in the lifeboats; both vessel and cargo were a total loss. August: Schooner Camden damaged by collision with the schooner Crossthwaite. Tug Stickney and steam-barge Abercorn damaged by collision in St. Clair river. Propeller Jarvis Lord sunk at the Manitous. Schooner John Bean, Jr., sunk at Muskegon. Schooners A. Mulvey and Maple Leaf burned at Toronto. Schooner Lily Hamilton sunk at Cana island, Lake Michigan. The steamer George L. Hope made the run from Duluth to Buffalo with 75,400 bushels of wheat in 103 hours and 50 minutes, including all stops. This was the quickest trip between these points ever made by a freight steamer. When 30 miles off Milwaukee, August 14, the walking beam of the City of Milwaukee broke above the hurricane deck, and the connecting rod crashed through from the hurricane to the main deck, a distance of 30 feet abaft the engine room, smashing furniture and everything it came in contact with in the cabin. The disabled steamer was towed into Milwaukee by the propeller William Edwards. September: The schooner Advance was lost with all hands off Sheboygan in a heavy gale. Capt. M. Paulson was master and owner. The steamyacht Sybilla, a salt-water boat owned in Philadelphia, arrived in the lakes. She had on board a pleasure party who made a cruise on Lake Superior. The Canadian propeller Prussia burned and sunk on Lake Superior. Her crew reached Bayfield, Wis. The barge Cyclone went ashore at Alabaster, Lake Huron, and proved a total loss. She was formerly the propeller Pittsburg, and was built by Morris at Cleveland in 1857. The schooner Blazing Star saved the schooner Jane McLeod from total shipwreck on Lake Ontario in a storm by towing her to Charlotte. Schooner Susan Ward wrecked at Oscoda. Schooner Erie Wave capsized off Port Colborne. Schooner Raven wrecked at Menominee. Schooner H. M. Scove damaged by collision with propeller United Empire off Keewenaw Point. Schooner Floretta sunk near Manitowoc. Schooner New Church wrecked at Two Rivers. Schooner Little Willie foundered near Chi-

cago. Steamer City of Rome damaged by fire at Duluth. Schooner Frank W. Wheeler sunk on Lake Superior. October, Scow Annie Tomine capsized off Grand Haven. Barge Seminole sunk at Rondeau. Barge C. N. Pratt burned at Windsor. Tug Thomas Quayle burned at Ontonagon. Schooner George B. Sloan wrecked at Oswego. Schooner Ida Walker sunk near Ameliasburg. Schooner Ada Membray sunk and went to pieces near Oswego. Schooner Tuscarora wrecked at Oswego. Schooner J. C. Harrison wrecked at Oscoda. Schooner Japan wrecked at Hedgehog Harbor. November: The tug Frank Moffat burst her boiler near Sombra, Ont., killing William Ward, chief engineer, and three others of the crew. The steamer John Spry burned to the water's edge. The schooner R. B. King, Capt. James Dunbar, struck the north pier at Muskegon in a heavy gale and capsized. Two seamen were drowned. Schooner Addie wrecked at South Haven. Schooner Highland Maid capsized on Lake Erie. Tug Kelly burned near Herson's island. Steamer Algoma wrecked off Port Arthur, Lake Superior; many lives lost. December: Tug St. Mary burned at Glen Haven. Schooner Corsican waterlogged and sunk near Monroe. Tug Resolute burned at Green Bay. The old schooner Caledonia was reconstructed at the shipyard of Capt. J. M. Kelly at Racine. The Caledonia was built in 1842, and was the oldest craft in service on the lakes.

1886.

*Great Storms.*—It is recorded that the worst gale since 1844 visited the Lake Erie region October 14. The water from the lake rushed into the Buffalo harbor, filling to overflowing Buffalo main creek and Blackwell canal, and making a clean breach across the canal in places for more than a mile east of the South Michigan-street bridges. All the houses located on the beach from Michigan street east were demolished to the number of 30 occupied by families, leaving scarcely a vestige of houses or furniture. The people narrowly escaped with their lives.

A terrible storm which occurred on the

lakes November 17 and 18 caused the loss of 29 vessels and 39 lives.

*A New Year's Trip.*—On New Year's day the ferry steamer *Excelsior* went to Put-in-Bay island from Detroit and returned with the schooners *Grace Amelia* and *William Case* after being absent 24 hours.

The scow *Magruder* arrived at Port Huron from Oscoda with a cargo of lumber on January 4, the first time a like occurrence has happened in 30 years.

*Other Events of 1886.*—April: Barge *Vanetta* totally wrecked near Point Pelee. The steamer *Africa*, of Kingston, 404 tons register, was almost totally destroyed by fire while in winter quarters at Owen Sound. Steambarge *Josephine* sunk at Sandusky by collision with a bridge. The barge *Star of Hope*, 267 tons, went ashore at Point Pelee and proved a total loss. May: Schooner *L. J. Conway* wrecked at Michigan City. Schooner *Lafriner* stranded at the head of the Beavers. June: Schooner *Thomas P. Sheldon* sunk in Lake George by collision with the propeller *Russia*. Steambarge *Swallow* sunk at Chicago. Schooner *Adriatic* sunk at Chicago. Light-house burned at East Tawas. Schooner *O. M. Bond* sunk at Port Dalhousie. Schooner *David Vance* sunk at Amherstburg. The largest towed log raft up to this time was that towed by the tug *Mocking Bird*, from Grand island, Lake Superior, to Bay City, measuring 4,000,000 feet. July: Steamer *Oconto* wrecked in St. Lawrence river near Rock island. Schooner *Edward Blake* sunk at Bar Point. Schooner *Selkirk* and tow barge *Favorite* collide and sustain injuries at Lime Kiln Crossing. Steambarge *Milwaukee* sunk by collision with the *C. Hickox* on Lake Michigan. Schooner *Hercules* capsized off Sheboygan. Steamer *Passport* sunk at the Cornwall canal. August: Steambarge *Anna E. Thompson* sunk at Grand Haven. Steamer *Ingwersen* burned near Toledo. Steamer *Welcome* sunk at Chicago. Tug *A. Booth* sunk on Lake Superior. September: Tug *Anna Dobbins* sunk near the Charities. Schooner *Dreadnaught* sunk by collision with tug *Cheney*

off Point au Gres. Schooner *Honora Carr* foundered on Lake Erie. Barge *Ferguson* sunk at East Tawas. Steamer *General Wolseley* burned near Cape Croker. The *Escanaba* collides with the schooner *Thos. L. Parker* at the Sault. Schooner *F. J. King* sank in Lake Michigan. Schooner *Reindeer* sank at Fairport. October: Schooner *Belle Mitchell* lost on Lake Erie; eight lives lost. Steambarge *Selah Chamberlin* sunk by collision with the *John Pidgeon* on Lake Michigan; five lives lost. Steamer *L. G. Mason* burned at Bay City. Tug *Lizzie Sutton* burned on Lake Superior. Schooner *Rathbone* wrecked near Goderich. Propeller *W. L. Brown* sunk off Peshtigo. The schooner *G. M. Case*, of Chicago, 327 tons register, foundered on Lake Erie six miles from Port Colborne, during a heavy gale, while on a voyage from Chicago to Buffalo, with a cargo of corn; three lives were lost. Steamer *A. Neff* wrecked at Edward island. Schooner *John Bentley* sunk off Cabbage Head, Georgian Bay. Schooner *Ella Murton* wrecked near Port Dalhousie. Barge *Eureka* foundered on Lake Superior. Steambarge *Wm. Randolph* burned on Lake St. Clair. Schooner *S. J. Tilden* sunk by collision with propeller *Arabia* near Port Huron. Schooner *Lady Dufferin* sunk at entrance to Georgian Bay. November: Propeller *Myles* sunk near Kingston. The *M. Stalker* sunk by collision with the *Waubashene* near Cheboygan. Schooner *Sea Star* wrecked at Ahnapee. Schooner *City of Cheboygan* sunk near Detour; one life lost. Schooner *Ellen Spry* sunk on Lake Michigan. Tug *A. C. Waters* burned on Lake Michigan. Steamer *Northerner* burned at Kelley's island. Schooner *Detroit* sunk near Death's Door. Barges *Dickeson* and *Emerald* lost off Kewaunee; eight lives lost. Steambarge *Robert Wallace* and consort *David Wallace* wrecked near Marquette. Schooner *L. J. Conway* wrecked near Fowler Creek, Mich.; five lives lost. Schooner *Florida* a total loss at Marquette. Schooner *Lucern* wrecked near Chequamegon Point; ten lives lost. Barges *Menekaunee* and *Marinette* wrecked near Frankfort, Mich.; 14 lives lost. Steamer *Oregon* sunk by collision



with steamer Alaska near Bois Blanc island. Schooner North Star sunk off Stony island. Schooner Helen sunk near Muskegon, carrying down the crew of seven. December: Schooner Ariadne ashore in Mexican Bay; total loss; four lives lost. Tug George B. Dickinson sunk at Bay City. Barge Matilda sunk on Saginaw bay. While the number of casualties to vessels has not been so great as during the season of 1885, the loss of life has been larger. Fifty-eight hulls passed out of existence this year, approximating 30,000 tonnage, involving a money loss of about \$1,000,000. The lost tonnage comprises 13 steam-propelled vessels, and 45 schooners and barges. The list of partial losses will swell the total to about \$1,500,000; much of this property was not insured. The total loss of life aggregates 138, while the previous season it was but 85. The close of the season found the carriers of the lakes very much scattered. No less than 35 boats were caught by winter in Lake Superior ports, and many of them were compelled to ship even after being loaded.

1887.

*The Terrible Gale of October 3.*—The schooner City of Green Bay, of Chicago, went to pieces in a terrible gale that swept across Lake Michigan, October 3. During the prevalence of this storm six vessels were totally lost and six stranded or otherwise disabled. Out of a crew of six men on the City of Green Bay only one survived. Capt. William Costello was among the lost. The schooner was bound for St. Joseph from Escanaba with a cargo of ore, and sprung a leak. The crew let go the anchors and drifted all night, and at daylight were about two miles northwest of South Haven, from which place her distress signals were sighted, her anchor having caught in the meantime, with the crew in the rigging. The life-saving crew went to her assistance, and succeeded in putting a line aboard. The vessel broke in two amidships, and the line parted. A second line was hauled aboard and secured, but she soon went to pieces, her spars toppling over, carrying with them three of the crew, all of whom were

drowned. Mr. Slater, the surviving sailor, was washed off the wreck, and was fortunate enough to seize a piece of floating deck, to which he clung and reached shore. The life-saving crew launched their surfboat and made a heroic attempt to reach the wreck. Captain Costello, with a life-buoy, dropped into the water, but did not live two minutes. His body was picked up by the life-savers. The captain of the life-boat was swept overboard and came near losing his life. The City of Green Bay had quite an interesting history. She was 329 tons burden, and built by L. Nau in 1872. In the year 1873 she made a voyage from Chicago to Scotland ports, returning to Montreal with coal, thence to South American ports. She then made the passage to Liverpool, and started for Cuba, but encountered a hurricane and put into a Spanish port disabled. After two years on the ocean she returned to the lakes.

The Canadian propeller California, of Montreal, left Chicago for Montreal October 3 with 26 persons aboard, including five passengers. Captain J. V. Trowell in command. She encountered a heavy gale near the Beavers, which put out the fires, when the vessel swung around in the sea and commenced breaking up. She soon went to pieces, and all were left struggling in the water. The captain and engineer succeeded in getting a yawl boat out of the wreckage, the mate and several men having put off earlier in the only boat that could be launched. The two officers picked up the second engineer, cook and a lady passenger. The boat drifted down alongside the propeller A. Folsom, anchored under St. Helena, and was picked up. Nine lives were lost and 17 saved.

The tug Orient with all hands sunk off Point Pelee, October 4, having sprung a leak in the stern. Her fires were put out, and she carried down with her Captain Daniel and a crew of five.

The schooner Venus, Capt. James Thompson, foundered in Thunder bay, October 4, carrying down with her the entire crew of six men.

*Greatest Disaster of the Season.*—The wreck of the passenger propeller Vernon on



Lake Michigan with a crew of 22 and many passengers, October 29, involved a greater loss of life than any previous disaster during the season of 1887. She was at one time one of the finest furnished passenger boats on the lakes, and took the place on the Northern Michigan line of the steamer Champlain, burned early in the season, and was in command of Capt. George Thorpe. Captain Moran, of the steamer Superior, imparted the first details of the sad event. He saw three or four rafts with men clinging to them, and also a small boat containing a woman and three men. Though he made effort to rescue them, the high sea running prevented, as the Superior was herself disabled. The wreckage was scattered in all directions. Sections of the pilot house were found 18 miles apart, and a life-raft without an occupant was picked up 12 miles northeast of Sheboygan. The entire loss of life is placed at thirty-six.

The month of October showed an aggregate of 285 accidents and disasters on all the lakes, which was 115 more than in the same month in 1886. The loss of life during the month was 135 persons, 126 of whom were drowned from vessels.

*Thrilling End of the Arizona.*—The steamer Arizona left Marquette November 17, for Portage lake on her last trip. She was compelled to put back by a furious storm from the northeast. While laboring heavily in the high seas five or six miles from Marquette a carboy of acid was broken, filling the space between decks with dense and stifling fumes and setting fire to the steamer. The poisonous fumes made it impossible to fight the fire, and the engineers and firemen were soon driven from the engine room. The chief engineer was the last man to leave his post, and only when nearly suffocated. He turned on a full head of steam and joined the rest of the crew on the upper deck. There were 900 barrels of oil and acid in the cargo. Capt. George Glaser stood with the man at the wheel. As the burning steamer drew near to port and swept around the breakwater, the fire blazed out from her sides, creating a general alarm and the steamers of the docks began sounding

their whistles. The China and Nyack lowered boats to pick up the Arizona's crew.

Although the captain and crew had escaped death on the open lake they were in almost as great peril in the harbor, in charge of a burning ship, which was rushing on at full speed without a man at the engine. Sweeping around in a broad circle Captain Glaser headed the burning steamer square toward the breakwater, determined to land the men there. She struck the pier just forward of the steamer Nyack, and the crew, 23 in number, leaped upon the breakwater. The burning steamer's engines still working held her nose up to the dock until the rudder swung her stern around, and the abandoned steamer shot along the pier into the slip by the waterworks. The crew, chased by the steamer, had to run for their lives along the breakwater to keep from being suffocated by the clouds of smoke and fumes of the burning acid. The Arizona finally buried her nose in the sand and found her last resting place. She was built in Cleveland in 1865, and was owned by the Anchor line.

*Steamer Champlain Burned.*—The steamer Champlain, of the Northern Michigan line, was burned at midnight June 16, between Norwood and Charlevoix. In ten minutes from the time the fire was discovered by the chief engineer, the entire vessel was in flames, and was headed for Fisherman's island. She grounded about a mile from shore, and the passengers were forced into the water, many of them in the excitement jumping overboard. Twenty-two lives are known to have been lost. Those saved floated around an hour before they were rescued by a yawl and fish boats from shore. Many were badly burned.

*Loss of the Walters.*—A heavy squall struck the steambarge P. H. Walters, shortly after leaving Marblehead for Cleveland with a cargo of stone, June 20, and capsized her instantaneously, the vessel filling with water through the hatches. She sunk with twelve persons aboard, but four of whom were saved. As the boat sunk Capt. J. G. Gillespie seized his wife with one arm and a child with the other, and jumped into the lake, followed by the mate, who jumped

through the window of the wheelhouse. Despite the efforts of the gallant captain his wife slipped from his grasp and was drowned. The captain secured a floating fender, as did also the mate and George, the captain's eldest son.

*Sinking of The Theodore Perry.*—The sinking of the schooner Theodore Perry, July 22, involved the loss of five lives. Captain McCormack, who had gone forward, noticed that the barge was laboring hard in the heavy sea, and that she was opening up on the starboard side just under the deck beams. He sung out to the crew that the boat was sinking, and to save themselves. In less than three minutes she was under the surface. When the vessel went down the captain sprang on the cabin, and the mate, Hugh Deeving, on the forecandle deck, where they clung eleven hours before they were rescued. The two portions broke apart and drifted about near each other. They were picked up by the propeller Alaska.

*Loss of the Niagara.*—The schooner Niagara was overtaken by a fierce gale on Lake Superior August 7, and foundered in seven fathoms of water. Captain Clements and the entire crew of ten men were drowned. The Niagara left Ashland in tow of the steamer Australasia, with 1,400 tons of ore. After weathering Keweenaw Point the wind freshened up until it increased to a furious gale, both boats laboring heavily. When ten miles above Whitefish Point the tow line parted, and with no canvas to steady her, the schooner fell off into the trough of the sea. For an instant she lay on her starboard side with the lee sail under water, the waves sweeping over her. She was then lifted on the crest of a mighty wave. As she righted there was a great crash, her spars toppled over, tearing up the deck and crushing the bulwarks as they fell into the sea.

*Accident at a Launch.*—The steamer William H. Wolf, 1,791 net tons, was built at Milwaukee by Wolf & Davidson. Her length of keel is 284 feet, length over all 308 feet, breadth of beam 41 feet on deck, molded depth 24½ feet. The launch occurred on the eve of Mr. W. H. Wolf's 59th birthday,

and was attended by a deplorable accident, resulting in the death of three persons; several others were fatally injured, about 20 badly hurt, and many others less seriously. Directly opposite the vessel to be launched was a large coal dock of the Northwestern Fuel Company. Upon the roof of this coal shed about 100 people had assembled to witness the event. The water displaced by her hull rose like a tidal wave and swept over the coal dock and up towards its roof, the supports of which gave way and fell with its living freight, many being precipitated into the river, and others crushed.

*Statistics.*—The season of 1887 opened with great activity in shipyards on the lakes. During the season of 1887 204 lives were lost on the lakes, and not less than \$2,500,000 worth of property destroyed. Seventy-three vessels, aggregating 20,687 registered tons, ceased to exist. The total losses comprised 16 steamers, 43 schooners, six tow barges and eight tug boats, representing a financial loss of \$792,000 on hulls and \$408,000 on cargoes. Despite this large destruction of vessel property, the tonnage that passed out of existence was much less than one-half of the new tonnage built at the lake shipyards during the year and placed in commission.

A summary of the new tonnage gives the number of the various rigs as follows: Steamers, 55; tugs, 14; steamyachts, 9; steam piledrivers, 2; schooners and schooner yachts, 20; total, 100.

*Other Events of 1887.*—April: Steam-barge G. P. Heath burned on Lake Michigan. Schooner Louis O'Neil sunk on Lake Erie by collision with schooner Thos. Parker. May: Schooner Carrier sunk at Pentwater. Schooner Consuelo wrecked at Bailey's Harbor. Schooner L. Van Valkenberg sunk in Thunder bay by collision with the Lehigh. June: Schooner Sunrise wrecked near Chicago. Tug James A. Reed burned at Sturgeon bay. Steam-barge Good Hit burned off Grosse Isle. Scows Toboggan and Hunter capsized and sunk near Milwaukee. July: Barge Geo. Worthington sunk by collision with schooner Geo. W. Davis off Colchester reef. August: Steamer City of Ashland burned near Ash-



land. Tug Patrick Henry foundered off Vermilion. Scow Clara wrecked near Miller's Station. Tug Frank Geel burned at Muskegon. Tug Fawn foundered in Lake Michigan. September: Scow Bluebell wrecked at Sheboygan. Schooner Mona totally wrecked near Point aux Barques. Schooner W. H. Hawkins sunk at South Haven. Schooner Ole Olson lost on Lake Michigan. Steambarge Ada Allen burned at Amherstburg. Schooner Pulaski wrecked in Good Harbor bay. October: The barge Oriental of Kingston, Ont., 328 tons register, left the Port of Charlotte, N. Y., with a cargo of coal, 650 tons, in tow of the tug Scotia. When about three miles off Port Dalhousie the tow line parted on account of a gale that had sprung up, and the Oriental went down with the crew of five. Schooner Jessie Scarth foundered on Lake Michigan. Schooner Manzanilla sunk on Lake Erie. Schooner Polynesia sunk on Lake Michigan. Schooner Havana sunk on Lake Michigan; three lives lost. Schooner James F. Joy sunk at Ashtabula. Schooner C. H. Hutchinson sunk on Lake Erie. Propeller Delaware wrecked at Hammond's bay. Schooner L. D. Bullock foundered on Lake Ontario. City of Owen Sound wrecked near Clapperton island. Schooner Marie Victoire wrecked at Sand Point. Schooner Dolphin sunk on Lake Huron. Schooner L. Seaton sunk on Lake Erie. Canadian schooner Rob Roy sunk at Sandusky. November: Schooner Commerce sunk at Racine. Steamer J. W. Westcott sunk in Lake Michigan. Propeller Egyptian sunk by collision at Lorain. Schooner Myosotis wrecked near St. Joseph. Schooner Blazing Star wrecked at Fisherman's shoal. Steamer B. F. Ferris sunk at Marblehead. Schooner White Star wrecked at Point Pelee. December: Steamer C. H. Merritt burned at Chatham, Lake Ontario.

1888.

*The First Whaleback.*—Steel barge 101, 412 tons, was the first whaleback vessel on the lakes built under the patents of Capt. Alexander McDougall, at Duluth, Minn. She was brought out by Capt. Wilbur Holbridge. This was a radical departure in

construction of lake craft. When loaded, the boat is hermetically sealed and presents an oval appearance above water. The work of steering and managing is done from turrets. The following account of this novel tow barge is taken from the *Marine Record* of June 28, 1888: "This cigar-shaped barge, which has been named 101, was launched on June 23, in the presence of 3,000 incredulous people. She is built of steel and her extreme length is 187 feet, 25 feet beam, and 18 feet 3 inches molded depth of hold. The bottom of the barge is nearly flat, with a shallow keel of bent steel plates; about 20 feet from either end the bottom slopes upward and both bow and stern come to a point on the line of the upper deck. It is especially above the load line where the new type of lake barge shows the great variance from accepted models, and here the difference is in her favor as a coarse freight carrier. The curve of her sides is carried up and around so that all that will show above water when she is loaded is about five feet of the surface of a long steel cylinder. Twenty feet abaft the bow, and the same distance forward of the stern, turrets are raised, each 8 feet in diameter and 7 feet high. Within the after turret is the barge's steering wheel. Above the turret aft is raised an oaken pilot house 10 by 12 feet in size, and in this as well as on the forward turret is a Providence capstan. The molded ends are divided from the cargo hold by tight bulkheads. In the forward compartment is placed the apparatus for working the vessel, while the after one forms the cabin and accommodations for a small crew. Her cost is about \$40,000."

*Loss of an Unlucky Vessel.*—The schooner Walter H. Oades collided, August 20, with the schooner R. Halloran, two miles from the Dummy, Lake Erie, and sank in half an hour. There was no loss of life. The captain, his daughter and the crew reached the lighthouse and were cared for. The Oades was built in Detroit by Capt. John Oades, in 1869, and measured 210 tons. She was one of the most unlucky vessels on the lakes. While she was under construction a fire broke out on her, and one side was almost consumed. When



nearly ready to launch the ways settled and she fell three feet, necessitating heavy expense in getting her into the water. Then she ran ashore at Rondeau point, after which she was sold by her builders. Later, while she was at anchor in St. Clair river, she was ran into by a big steamboat. She went on the bank in shallow water, and while the wreckers were at work she slipped off into deep water. She was repaired and while waiting settlement with the insurance companies she was ran into and lost her jibboom. At one time she was thrown upon the Buffalo breakwater by a heavy sea, and her minor mishaps would fill a book. When she was lost there was no insurance on her as the agents refused to take the risk because she was "unlucky."

*Wreck of the St. Clair.*—The Sand Beach life-saving crew, Captain Plough, took the crew off the barge St. Clair, wrecked October 1 near the harbor of refuge. The crew found both anchors down and Capt. C. H. Jones disposed to stay with the vessel. The life-savers then left her, and after a long and tedious pull dead to the windward in the teeth of the gale made the dock, thoroughly drenched and nearly exhausted. They had only been ashore a few moments when a torch was shown from the St. Clair, and they immediately started back and got every soul into the lifeboat, as the vessel was fast going to pieces. By this time it was impossible for the life-savers to pull back to the harbor, and it was decided to run before the gale, so they squared away for Port Sanilac. Heavy seas came aboard several times during the night, one carrying away the rudder, and two surfmen had their hands full steering with oars. At dawn the rescued crew were almost perishing, and it was decided to land south of the dock at Port Sanilac. As they were rounding the dock a heavy sea struck the boat and she rolled down on her beam ends, and throwing all but two seaman and three surfmen out of the boat, which beached immediately. Captain Plough and the rest of the surfmen were washed ashore. Capt. C. H. Jones and four of the crew were drowned.

The schooners Cromwell, Branden, and

Tim Baker and the propeller Matawan were wrecked in this same storm, but in widely different localities.

*An Old Timer Disappears.*—The barge Banner after 42 years' service on the lakes, succumbed to a northeast gale November 11, and was wrecked near Fish Point. She was owned and sailed by Captain Webb, of Mt. Clemens. His wife and a crew of five sailors were aboard. The captain lashed his wife and then himself to the rigging. Night came on and the gale increased, but at last help came. A number of local sailors manned a yawl and went to the rescue. After much difficulty the entire company were taken off the wreck, which soon after broke up.

*Season Free From Disaster.*—The season of 1888 will be memorable in the history of lake navigation for many reasons, not the least of which is the light loss of life and property from shipwreck. Old mariners fail to recall the time when the season, as a whole, has been so free from disastrous storms. October and November, the months most dreaded and usually attended with great material losses, passed without a blow worthy of being designated as a gale. The list of lost tonnage foot up 48 boats, of which 10 were destroyed by fire, with a carrying capacity aggregating but 17,700 tons, and total valuation of \$439,400. These figures represent barely half the losses of 1887. Only 16 lives were lost from actual shipwreck during 1888.

*Statistics.*—The tonnage constructed and launched upon the lakes during the year 1888 included 64 large steamers, 48 of which were built of wood, 11 of steel and 5 of composite construction, all of which classed high in Lloyd's register.

*Other Events of 1888.*—April: Tug Paddy Murphy burned off Dover bay. May: Dredge General Gilmore sunk off Fairport. Barge Pacific sunk at Sandusky. Tug John F. Whitelaw sunk at Cleveland. Barge Brooklyn sunk by collision with schooner C. N. Johnson. Schooner Maggie McCrea sunk off Thunder Cape. Steambarge Georgian sunk near Owen Sound. Tug Maud S. sunk near Cheboygan. Schooner Monguagon sunk at Milwaukee. June: Scow Ven-

ture sunk by collision with schooner Ford River, near Two Rivers. Steambarge Point Albino sunk at Marysville. Schooner H. F. Church sunk at Cleveland. July: Steamer Cumberland damaged by fire to the extent of \$40,000 at Fairport. Schooner M. C. Upper sunk at Toledo. Schooner Alva Bradley sunk at Bois Blanc island. Schooner Willie Keller sunk near Au Sable, by collision with the Robert Mills. Schooners Bay Trader and John Tibbetts wrecked at Cedar Creek. Schooner Maggie Thompson capsized off Port Washington. Steamer Leander Choate burned at Northport. Barge Old Concord sunk off Lion's Head. August: Schooner Delos DeWolf collides with barge Roanoke, damaging the latter to the extent of \$10,000. Steambarge Belle Wilson sunk off Harrisville. Schooner D. Freeman wrecked at Ford's Shoals. Morey sunk at Escanaba. Barge Arcturus sunk in Saginaw bay. Barge Sweetheart sunk at Marquette. Schooner Isaac Munson wrecked near Loosemore's Point. Steambarge Wm. Crossthwaite sunk at the Sault. September: Tug Forest City sunk off Cleveland. Steambarge Handy Boy burned at Sandusky. Steambarge Kincardine wrecked and sunk at French River. October: Schooner Australia wrecked near Holland. Schooner Delos DeWolf severely damaged by collision with Racine piers. Propeller A. M. Foster foundered off Point aux Barques. Schooner Henry W. Sage sunk in St. Clair canal. Steamer City of Montreal wrecked at Michipicoten island. Schooner Pensaukee sunk at the Flats. Schooner Swallow sunk at Fairport. Tug A. W. Laurence explodes her boiler on Lake Michigan. November: Steamer Robert Noble burned at Green Bay. Schooner Huron waterlogged at Tonawanda. Steamer Don Dickinson burned near Belle Isle. Schooner Helena wrecked at Fox island. Steambarge Leland burned at Huron. Steambarge C. H. Plummer burned at Kelley's island. Tug Anna P. Dore sunk near Dunkirk.

1889.

*Schooner Merrick Sunk.*—The collision between the steamer R. P. Ranney and the schooner M. F. Merrick, off Presque Isle,

May 18, resulted in the sinking of the schooner and the loss of five of the crew of seven. The schooner was struck just aft of the fore rigging, and sunk under the bows of the steamer. The crew on deck took to the rigging, and went down with her about 30 seconds after the collision. Three of the crew were below when the vessel sunk. The captain was saved by a line thrown to him from the Ranney, and William Goodfellow was picked up by the steamer's yawl boat. The Merrick was built in 1877 at Clayton, New York.

*The worst disaster on Lake Ontario* for many years was that of the foundering of the schooner Bavaria. The steamer D. C. Calvin, of Kingston, with the schooners Norway, Valencia and Bavaria in tow, was struck by a furious gale off Long Point. The tow line parted, and the three schooners were at the mercy of the sea. The Norway and Valencia managed to come to anchor after being waterlogged, and were picked up by the Calvin and Armenia, and towed to Kingston. The crews had been perched on the roofs of the cabins for 24 hours without food, and suffered from the cold of the drenching waves. The Bavaria went ashore on Gallou island, 16 miles from Kingston, and the entire crew of eight perished. The captain of the schooner Cavalier reports that he saw Captain Marshall clinging to the bottom of the upturned yawl and another man on the floating timber, but could render them no assistance on account of the raging gale.

*Capsized for the Third Time.*—The Canadian schooner Erie Wave capsized between Port Rowan and Clear Creek, Ont., and eight persons were drowned. She was in command of Captain Stafford. The vessel had been ashore for some days, and had an extra crew aboard to assist in releasing her. A sudden squall struck her. Two of the crew reached shore. This was the third time the Erie Wave has capsized. The first time, two of the crew were lost, and, the next, two passengers went down.

*A Prosperous Year.*—The season of 1889 was fairly prosperous. The demand for tonnage was large and steady, and while freight rates did not rule high, owners



made good profits. The total volume of business was in excess of that of 1888. The losses for the season aggregated about \$1,000,000. Sixty vessels, averaging 2,000 gross tons, were launched. Within two years more than \$12,000,000 worth of new vessels had been placed upon the lakes, and within three years the tonnage of lake vessels had doubled, and their carrying capacity increased in proportion.

During the season of 1889 collisions and gales abounded throughout the entire lake region. The losses to both vessels and cargoes were very great. The total loss on vessel property was 14,086 net tons, and the aggregate amount of total and partial losses reached in round numbers \$1,800,000.

*Encountered a Waterspout.*—The two-masted schooner George C. Finney, with a cargo of wheat from Toledo, encountered a waterspout while off Port Colborne, October 1, and when it left here she was barely afloat. The foremast was gone to the deck, the mainmast was broken off half-way down, and the jibboom was twisted out. Of the sails only the mainsail was saved; it was furled at the time. The crew of the Finney were reported saying they had escaped four waterspouts that day, but the fifth one came up under the stern and tossed her about like an egg shell. The propeller Parnell witnessed the casualty.

*Other Events of 1889.*—April: Schooner Nellie Hammond sunk near Racine. Propeller Seymour sunk at Otter creek. Steambarge John Otis scuttled at Sturgeon bay. May: Steambarge Tempest burned at Marine City. Steamer E. S. Pease wrecked near Port Hope. Schooner G. C. Finney sunk at White Rock. Tug Sea Gull sunk in Saginaw bay. June: Steambarge Alice Strong sunk by collision with a scow at Cleveland. Steambarge Anglin sunk in the Rideau canal. Steamers North Star and Chas. J. Sheffield collide near Whitefish point, resulting in the sinking of the latter. Schooner Keeweenaw sunk near the Neebish rapids. Steambarge D. W. Powers collides with schooner America off Chicago. Transfer steamer Armstrong sunk on the St. Lawrence river, near Brockville. July: Schooner Driver sunk at Ludington. Steambarge

Joseph P. Farnham burned off South Haven. Schooner Mockingbird wrecked near Middlesex. August: Schooner A. Vickery sunk near Rock island. Steamer Liberty burned on Green bay. Steamer C. Hurlbut burned at West Superior. September: Schooner Annie M. Foster sunk by collision with the yacht Siesta. Steambarge Commerce sunk on Lake Erie. Steambarge Leland scuttled near Pelee island. Steamer Tourist burned at Ashland. Steambarge Philip D. Armour sunk by collision with the steambarge Marion. Steamer R. A. Seymour sunk at Port Washington. The Folger burned in St. Clair river. The passenger steamer Rothesay, 22 years old, and 528 tons register, collided with the tug Myra, about a mile above Prescott, on the St. Lawrence river, sinking the tug; two of the crew of the Myra were lost. Steamer A. Y. Gowan burned at Cleveland. The steam-yacht Leo, with a party of Lorain business men aboard, exploded some miles off Cleveland harbor resulting in the death of eight souls. October: On the steamer Quinte, of Deseronto, a fire broke out on the lower deck and spread with great rapidity; the vessel was beached and burned down to the hull; four lives were lost. Schooner George C. Finney damaged by a waterspout on Lake Erie. Ferryboat Lady May burned at Sault Ste. Marie. Steamer Bessemer and schooner Schuylkill wrecked at Portage lake. Tug Col. Davis burned at Port Huron. Schooner Dauntless sunk in Sarnia bay. Schooner Imperial sunk at Georgian Bay. Barge W. C. Bell severely damaged by collision with the Minneapolis at St. Clair Flats. November: Steambarge Massachusetts collided with the steamer Seneca at Chicago. Tug W. Batchelor burned near Red river. Tug Peter Dalton burned at Muskegon. Schooner David Dow wrecked near Chicago. December: Schooner Clara White burned at Grenadier island.

1890.

*Shipbuilding Record Surpassed.*—With the advent of 1890 the shipbuilding industry assumed greater activity, and many large, high-class steel steamers, exceeding 3,000 tons carrying capacity, were con-



structed, notably at the shipyard of the Globe Iron Works Company in Cleveland, which launched ten modern steel steamers, one each month of the year with the exception of March and September. The registered tonnage of these new boats is 23,366.16 gross tons, surpassing the output of any other yard on the lakes. The skill of lake shipbuilders seems to be amply proven in the symmetrical proportions retained in the largest carriers. Some steel barges were built calculated for through traffic to Montreal, and others built at West Bay City, Michigan, for the Atlantic coasting trade. The number of vessels built in 1890 was 236, the gross tonnage aggregating 170,870 tons and the net 145,584, which is the largest output on record to this date.

*Many Vessels Stranded.*—For the season of 1890, occurred a large number of strandings, which in nearly every case is due to the lack of the ordinary aids to navigation usually granted in other waters.

The greatest financial loss on Lake Erie was the propeller Chenango, through fire, and later the steel-built steamer O. C. Reynolds from the same cause. The total loss of the steamer Nevada through foundering in Lake Michigan was the heaviest in that lake for the season, though it is somewhat singular that the fatal Gray's reef, which cost the lake mariners nearly a quarter of a million dollars the previous season, only caught one vessel this year.

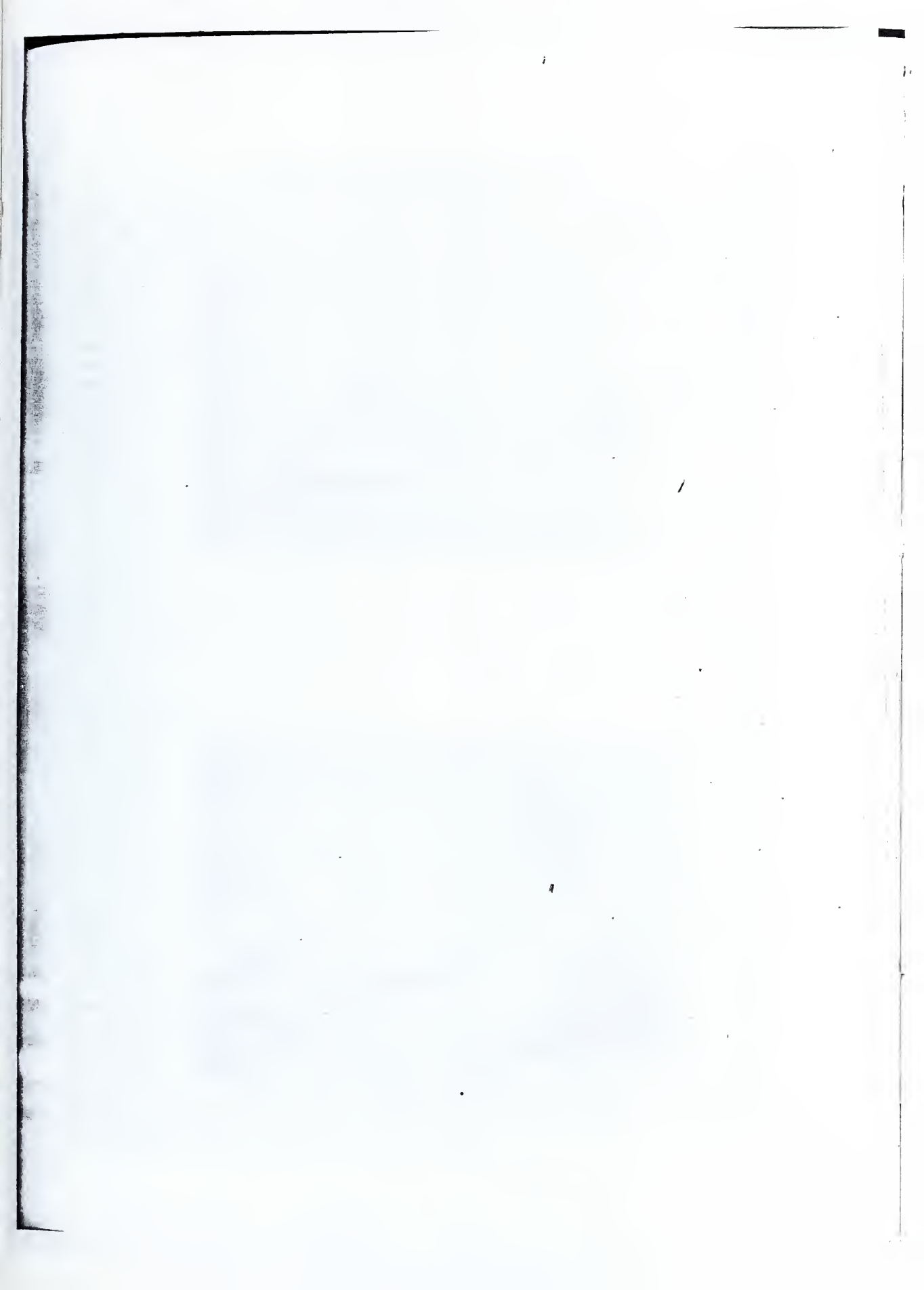
The low rates of freight throughout the entire season left the owners small margins to figure on, and there were some men of keen commercial intelligence who asserted that the building of floating property was being overdone. Notwithstanding this about 80,000 tons of new vessel property was added to the tonnage market for the next season.

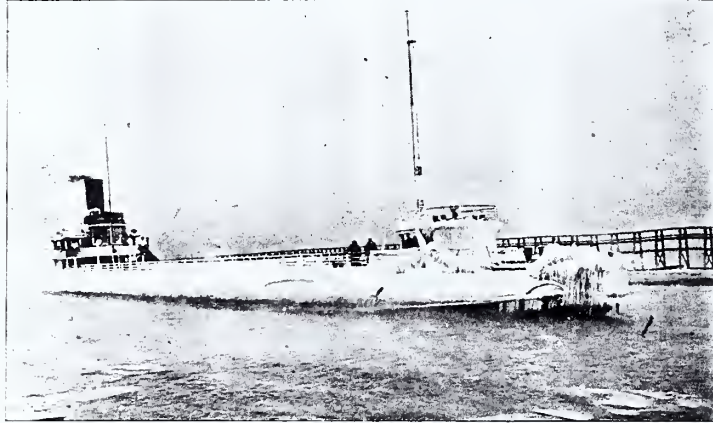
*Loss of the Annie Young.*—The steamer Annie Young, owned by the Anchor Line Steamship Company, burned to the water's edge and sunk in about six fathoms of water, 20 miles off Port Huron. She left that port and steamed a few miles up Lake Huron, when she was discovered to be on fire. Every effort was made to extinguish the flames,

but they spread with such rapidity that the captain ordered one of the yawl boats lowered in readiness to take the crew off when it should become necessary to leave the steamer. Against the captain's orders 12 of the crew got into the boat. Three of them, however, subsequently returned to the steamer. The yawl being towed alongside in the heavy sea, soon filled and the nine men left in the boat were drowned. In the meantime the flames were steadily and rapidly gaining possession of the steamer. The steamer Edward Smith was a few miles astern of the Annie Young. When the captain of the Smith saw the fire he cut off his tow and hastened to the rescue. The wind was fresh from the northwest. The engine of the Young was working and she was rolling in the trough of the sea, and it was an extremely difficult matter for the Smith to take off the men without catching fire herself; but finally all on board, thirteen in number, were rescued and taken to Port Huron by the Edward Smith.

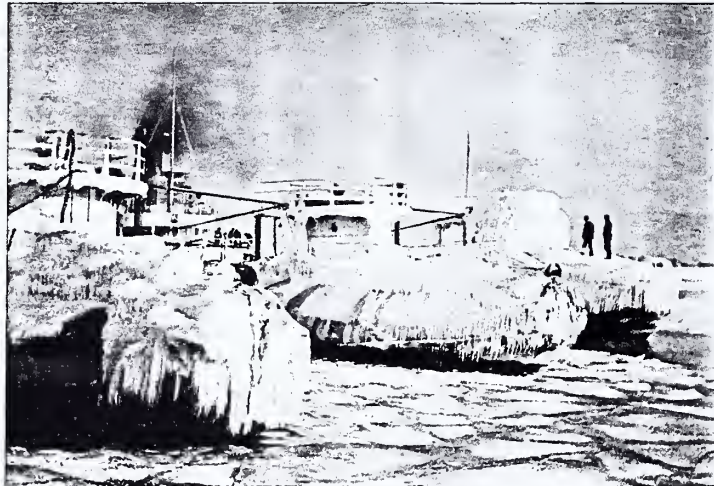
*Steamer Mackinac Goes to the Atlantic.*—In the fall of 1890 the steel steamer Mackinac, 4,000 tons, was sent to the Atlantic coast from the shipyard at West Bay City, Mich., she being one of two sister ships built by Wheeler & Co., for ocean trade. The Mackinac was launched at Bay City, towed to Buffalo, cut in two sections, taken in this shape through the Welland canal, and the St. Lawrence river canals, and put together at Montreal, the additional expense of this work being about \$10,000.

*Other Events of 1890.*—April: Propeller Chenango burned off Erie; was built at a cost of \$60,000 in 1887. Tug McArthur burned at Kingston. Schooner Magnetic sunk off Bar Point. Dredge Munson foundered on Lake Ontario. May: Steamer C. Liken sunk on Lake Huron. Schooner Curlew sunk on Lake Michigan. Tug Wales sunk off Tonawanda island by propeller Canister. Propeller Roanoke burned on Lake Erie. Tug Tom Matham sunk by collision with the steamer Cumberland on Lake Erie. Scow Alice Strong sunk by collision with propeller Glidden. Schooner Jessie H. Breck lost near Nine Mile





ARRIVAL OF WHALEBACK AT CLEVELAND, IN THE FALL.



WHALEBACKS IN WINTER QUARTERS AT WEST SUPERIOR.



Point. Steambarge Ohio sunk by collision with steambarge Siberia near Mud Lake. Barge O. J. Hale sunk near Point Sanilac, by collision with the steamer Neshota. June: Steambarge Ryan foundered off Port Stanley. July: Steamer D. J. Foley burned and sunk near Charlotte. Schooner Huron sunk on Lake Erie. Steambarge Sea Gull burned at East Tawas. Steamer Fred Pabst struck by lightning near Fairport. Tug Mocking Bird burned at Cheboygan. Barge Norma burned at Sandusky. Tug John Martin foundered in Georgian Bay. Steamer Tioga explodes her cargo at Chicago; many lives lost; boat damaged to the extent of \$20,000. Tug Mollie Spencer burned off Chicago; Tug Isaac May severely damaged by fire near Long Point. Schooner Verona sunk at Ashtabula by collision with the steamer Cambria. Schooner Charger sunk by collision with the steambarge City of Cleveland. The steamer St. Lawrence collided with the pleasure yacht Catherine on the St. Lawrence river near Alexandria bay. Of a party of 12 in the yacht, five were drowned. While coming across Detroit river the passenger steamer City of Detroit collided with the steamer Kasota just off Revere Range. The Kasota was struck just abreast of the mainmast, and before the headway of the City of Detroit was stopped she had cut her way nearly to the smokestack. In less than two minutes the Kasota was on the bottom, the cook going down with the vessel. The collision was said to be caused by defective steering gear on the City of Detroit. August: Steamboat Corsica sunk at Ashtabula. The wreck of the Chenango sold to James Davidson for \$17,000. Schooner Two Fannies sunk on Lake Erie. Tug Annie Watt sunk near Barrier island by collision with steamer Alderson. Steambarge Monitor foundered off Milwaukee. Schooner Tasmania sunk in Lake George by the J. H. Wade. Steamer Massasauga destroyed by fire at Gibraltar. The schooner Fannie L. Jones, heavily laden with stone from Kelley's island, foundered in a heavy sea a half mile from Cleveland harbor. Capt.

Thomas Rafferty, who was part owner of the boat, was drowned. The crew of three men were rescued by the Cleveland life-savers. September: Schooner M. E. Tremble sunk by collision with steamer W. L. Wetmore near Fort Gratiot. Steamer Lady Washington foundered on Lake Superior. Barge Ben Brink wrecked at Eagle Harbor. Schooner Comrade sunk in Lake Superior. Barge Genesee Chief waterlogged off Thunder Bay. Schooner Delos Dewolf sunk at Sturgeon Bay. Scow I. A. Johnson severely damaged by collision with the Lincoln Dall. October: Barge Wahnapiatae, in tow of the propeller John M. Nicol, went to pieces on the end of the breakwater at Cleveland and became a total wreck. Orlo W. Smith, of Oswego, New York, was lost. The remainder of the crew were rescued after much peril. Steambarge Fred McBrier sunk by collision with the Progress at Mackinaw. Steamer Ionia damaged to the extent of \$18,000 by collision with the Monteagle off Waughashance. Schooner Boody sunk at Port Huron. Tug Red Cloud sunk at Ashtabula. Barge J. F. Warner wrecked near Alpena. Tug A. J. Piper burned at Sturgeon Bay. Schooner Clara waterlogged at Green island. Barge Cohen wrecked at Port Hope. Steambarge Mackinaw burned at Black river, Lake Huron. Tug Cora B. burned at Duluth. November: The schooner Caroline Marsh, one of the old-time lake craft, was driven ashore at Oswego during a gale and became a total loss. Schooner S. C. Reynolds burned near Colchester. Steambarge Bruno and consort Louisa wrecked on Marquette reef. Scow R. H. Becker capsized near Ahnapee. Schooner Jessie aground at Bois Blanc island. Steamer Messenger burned at Rogers City. Steamer Nevada sunk near Two Rivers; valued at \$55,000. Barge Boscobel waterlogged at Sand Beach. Steambarge Cowie burned at Cheboygan. Barge 107, sunk by collision with a boulder at Sault Ste. Marie. Schooner David Wagstaff foundered off North Fox. The Canadian freight steamer, Lake Ontario, built at Port Dalhousie in 1872, was burned at Clayton, in 1890.

## CHAPTER XLI.

1891—1898.

FOUNDERING OF THE PEREW, 1891—LOSS OF THE HATTIE A. ESTELLE—DISAPPEARANCE OF THE HUME—OTHER EVENTS OF 1891—WESTERN RESERVE GOES DOWN, 1892—TERRIFIC OCTOBER STORM—DISAPPEARANCE OF THE GILCHER—FOUNDERING OF THE NASHUA—LOSS OF THE JOHN BURT—OTHER EVENTS OF 1892—FATAL COLLISION OF THE ALBANY AND PHILADELPHIA, 1893—DESTRUCTIVE OCTOBER GALE—CURIOUS WORLD'S FAIR VISITORS: SPANISH CARAVELS AND NORWEGIAN VIKING—STATISTICS—OTHER EVENTS OF 1893—LOSS OF THE CUMMINGS, 1894—OTHER EVENTS OF THAT YEAR—LOSS OF THE CHICORA, 1895—LOSS OF THE ST. MAGNUS—FOUNDERING OF THE AFRICA—LOW WATER—FIVE FATAL DISASTERS—LOSS OF THE MISSOULA—OTHER EVENTS OF 1895—STATISTICS OF MARINE LOSSES, 1896—LOSS OF THE AYER, SUMATRA AND WAUKESHA—OTHER EVENTS OF 1896—WRECK OF THE IDAHO, 1897—SAFE TO SAIL THE LAKES—WRECK OF THE PEWABIC FOUND—LOSSES OF VESSELS FROM 1890 TO 1897—OTHER EVENTS OF 1897—THE MILD WINTER OF 1897-98—FROM THE LAKES TO THE ATLANTIC—SEVERE STORMS, 1898—LOSS OF THE DOTY—LOSS OF THE THOL AND OTHER VESSELS—WRECK OF THE ST. PETER—FOUNDERING OF THE CHURCHILL—GOOD YEAR FOR LAKE CRAFT—LARGE CARGOES—CAUGHT IN THE ICE—OTHER EVENTS OF 1898.

1891.

LATE in September of this year the schooner Frank Perew foundered off White Fish Point, Lake Superior. From the account of the only survivor (Charles Larrabee, of Buffalo) of a crew of seven, all told, it is learned that on September 25 the steamer N. K. Fairbanks, which had the schooner in tow, cast her off, she being bound for Marquette with coal. The next day a severe storm was encountered, and on Tuesday, when about 15 miles off Vermilion Point, the hatch cloths were washed off and the schooner filled through her hatchways. The crew stuck to her until it was evident that she would soon go to the bottom, when they took to the yawl, and for six hours struggled with the waves. They passed within two miles of White Fish Point, and made for Parisienne island. When within 40 rods of the beach the yawl capsized in the shoal water. Twice all hands caught on to the boat, but were washed off again, and all hands drowned with the exception of Larrabee, who

reached shore and wandered around until he met two fishermen, who returned with him. They recovered the bodies of Capt. J. M. Marquey, of Bay City, and the rest of the crew.

*Loss of the Hattie A. Estelle.*—The schooner Hattie A. Estelle, of Chicago, bound for Buffalo with a cargo of wheat, went ashore at the entrance to Manistee, Lake Michigan, and became a total loss. James Stern reached the shore by swimming, and the life-saving crew rescued three of the crew. Captain Estelle and two of the crew were drowned. The schooner was owned by the Captain, who was an active, energetic man. She was only 295 tons burden, and was built in 1873 by Hanson & Co., at Manitowoc, Wis., for Capt. J. L. Higgle, who gave her the name of Mary L. Higgle after his little daughter. Shortly after she went into commission she took a load of deals from Green Bay to Liverpool, England, returning to Quebec with a cargo of coal. After discharging cargo she left Quebec for Cape Town, Africa, with a load of deals. Leaving there she went to



Natal during the African war and returned to Cape Town with some prisoners.

*Disappearance of the Hume.*—One of the most singular cases on record for the year was the loss of the schooner Thomas Hume, which left Chicago on the evening of May 21, light, for Muskegon. Neither the vessel nor any member of her crew was ever since heard of, and while she is listed as foundering on Lake Michigan, uncertainty existed for many weeks after her disappearance. That a vessel in first-class condition, in charge of a skilled navigator and well manned, should have been so totally obliterated seemed remarkable.

*Other Events of 1891.*—The loss of the stanch schooner Atlanta through foundering on Lake Superior was another disaster, as the entire crew perished after abandoning the sinking vessel. Three lives were also lost through the foundering of the tug Tempest in Cleveland harbor. The Canadian schooner E. G. Benedict stranded in the harbor of Port Stanley November 19, and the crew were compelled to take to the rigging. The life-saving crew at Port Stanley rescued the captain, mate and four seamen from their perilous position, a heavy sea continually breaking over them until Coxswain Berry and his crew reached them. Each member of the crew received \$5 for this gallant exploit as a reward for their services. The two fastest boats in 1891 were probably the Owego and the Chemung, both built for the Union Steamboat Company to engage in the package freight business between Buffalo and Chicago, and each costing about \$330,000. The Owego in 1891 held the record between Chicago and Buffalo, running the entire distance, 889 miles, in 54 hours and 15 minutes, an average speed of 16.4 miles per hour. Most of the steel freighters made only about 12½ to 14 miles per hour. Two whaleback propellers were sent to the Atlantic coast, and three remained on the lakes. One of those sent to the Atlantic coast, the C. W. Wetmore, attracted great attention by carrying a cargo of wheat in the summer of 1891 from Duluth to Liverpool. This, however, was not done without breaking bulk at Kingston, running the rapids in the St.

Lawrence river, reloading at Montreal, and proceeding thence to Liverpool. She then crossed the Atlantic to Philadelphia, there took a cargo of machinery for Puget Sound, reaching her destination in safety. March: Steamer City of Detroit No. 2 severely damaged by collision with McDougall's rock. April: Schooner Samana damaged by collision with steambarge C. H. Green at Port Huron. Scow Mammoth sunk at Cleveland. Propeller Josephine damaged by fire at Ogdensburg to the extent of \$5,000. May: Steamer R. J. Gibbs waterlogged at Port Austin. Tug Eleanor sunk off Pigeon island. Schooner Minerva severely damaged by collision with the schooner Magdalena. Schooner W. C. Kimball lost off Point Betsey. Barge Baker sunk at St. Clair canal. June: Scow Mayflower sunk on Lake Superior. Schooner Fayette Brown sunk by collision with the Northern Queen. Tug Mockingbird and raft of 4,500,000 feet of lumber ashore near Bay City. Tugs Alva B. and American Eagle collide on Lake Erie, sinking the latter. The Starke sunk by collision with the schooner Chas. Wyman near Port Washington. Schooner Topsey foundered at Sand bay. Propeller Bay City burned in Detroit river. July: Steambarge Ira Chaffee burned at Sault Ste. Marie. Propeller Pontiac sunk by collision with the steamer Athabasca near Wilson's Bend. Schooner Colonel Cook sunk at Sandusky. Burned steamer Annie Young sold to John W. Thomson for \$150. Schooner Silver Cloud capsized near Port Washington. Scow Hero sunk off Starve island. Schooner Gearing burned at Trenton. Steamer Mike Davis burned at Osceola, Wisconsin. Steamer B. F. Ferris burned at Caseville. Schooner Helena sunk by collision with the steamer Mariska at Black Hole, Little Mud lake. Schooner Michigan broke in two at the dock at Chicago. August: Schooner S. B. Pomeroy burned off Oak Orchard harbor. Steamer William Alderson burned near Port Dover. Schooner Dawn capsized off Port Washington. The James Sawyer capsized near Waugashance. Barge Genesee Chief waterlogged at Cheboygan. Schooner Millard



Fillmore sunk near Roger's City. Tug Florence sunk at Cleveland. Steambarge Edward H. Jenks sunk by steamer Marley near Ballard's reef. September: Schooner Persia foundered off Point Petre. Tug Danforth sunk near Buffalo. Barge Thos. Parsons sunk at Fairport. Schooner Mediterranean foundered in Lake Michigan. Schooner Frank Perew foundered off Whitefish point. October: Steamer Winslow burned at Duluth. Barge W. L. Peck sunk on Lake Erie. Steamer Susan E. Peck sunk by collision with the schooner George W. Adams at Lake George flats. Barge Mary Birkhead sunk by collision with steamer Roman at Lime Kiln Crossing. Tug Oswego burned in Detroit river. Schooner Lottie Wolf wrecked off Hope island. Steamer Conemaugh sunk by collision with the schooner New York near Detroit. Steambarge Oscar Townsend burned on Lake Huron. Propeller Sovereign foundered on Lake Superior. Steambarge Alpena burned on Lake St. Clair. November: Steambarge J. S. Ruby burned near Stag island. Schooner Montcalm wrecked near Long point. Schooner Ellen Severlson wrecked at Grand Haven. Propeller Oswegatchie foundered on Lake Huron. Schooner George C. Finney foundered on Lake Erie. Propeller Samuel Mather sunk by collision with the steamer Brazil in Whitefish bay; valued at \$95,000. Tug Page burned near Fairport. Pasaic foundered on Lake Erie. Tug Leviathan burned at Cheboygan. December: Steamer Scranton wrecked at Bar point. Steamer Ogemaw sunk at Big Bay de Noc. Steamer Jeanie burned at Toledo.

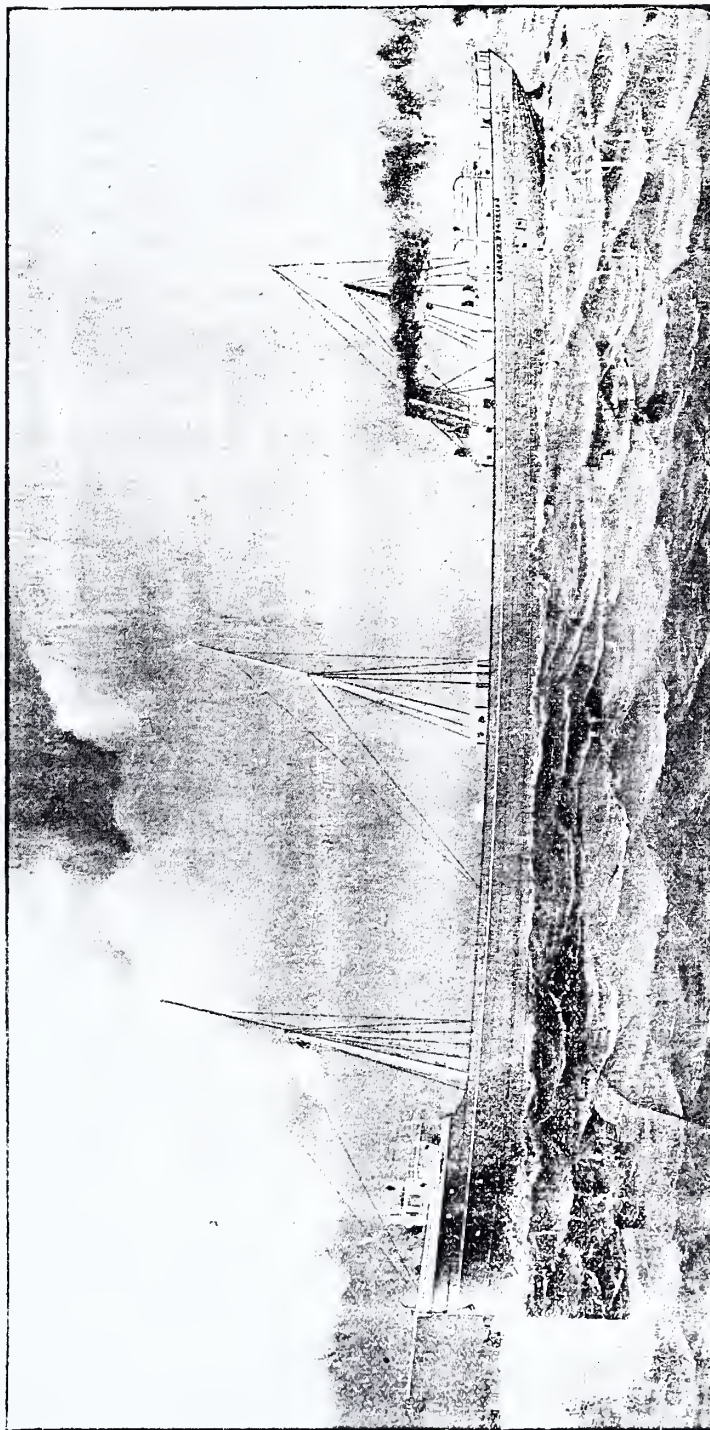
1892.

*Western Reserve Goes Down.*—On Tuesday, August 30, the new steel steamer Western Reserve, 2,392 tons burden, commanded by Capt. Albert Meyer, bound from Cleveland to Two Harbors, foundered during a fierce gale on Lake Superior, about 60 miles above Whitefish Point, resulting in the drowning of six passengers and a crew of 25, Harry W. Stewart, wheelsman, of Algonac, being the sole survivor. The Western Reserve had sheltered behind Whitefish Point for a time, but finally, feel-

ing confident of her ability to reach her destination in safety, the captain headed her into the lake, and all went well until about 9 P. M., when she was about 60 miles above the point, when the first warning of impending danger was a terrible crash, caused by the the steamer breaking in two, the main mast going by the board, and weakening at other points well forward. She shipped water fast from the start, and the yawl boats were lowered. Capt. P. G. Minch, owner, with his family, and the officers and crew of the steamer to the number of seventeen, got into the wooden boat, the others taking to the metallic yawl. A few moments later the great steel hull sank in deep water, but before she had disappeared the metallic lifeboat capsized.

The other boat went to the assistance of those struggling in the water, but only succeeded in rescuing two of the unfortunates, Captain Meyer's son Carl, and the steward. The 19 survivors now in the yawl headed for Whitefish Point, 60 miles away. The wind was northeast when they started, but veered to the north, making considerable sea. The small boat weathered it, however, until 7 o'clock Wednesday morning when, about ten miles from Life-saving Station, No. 12, and about a mile from shore, it capsized, and all lost their lives except Mr. Stewart. The captain's son Carl bore up for a time, but, becoming exhausted, gave up the struggle, and Mr. Stewart, who was a strong swimmer, reached the shore alone, ten miles from the life-saving station, where he lay unconscious for a time. He then walked and crawled to the station and reported the calamity. Captain Minch was accompanied on this disastrous voyage by his wife and two children, and his wife's sister, with her daughter. W. H. Seaman, the chief engineer, was a son-in-law of George Eddy, a former manager of the old Northern Transportation Line at Ogdensburg, N. Y. The bodies of Captain Minch and his sister-in-law were recovered.

*Terrific October Storm.*—On Friday, October 28, the weather, which had been acting unsteady for 24 hours previously, veered to the northwest, and by midnight a 60 to 70 mile gale was blowing over the



THE WESTERN RESERVE.





several lakes, resulting in a loss of a number of lives and a million dollars worth of vessel property. The principal casualties at Cleveland were the sinking of the steamers Pontiac, Maruba and Ketchum in about 20 feet of water; schooners Samana, Colonel Cook, and Glad Tidings total losses, and the yacht Matt B. sunk, all inside the breakwater.

The schooner Nellie Hammond, while seeking shelter, became a total wreck on the south pier at Muskegon, and her master, Louis Michelson, was drowned. The barge Mishicott piled herself up south of Manistee, and the crew saved only by heroic efforts of life-savers. The schooner Zach Chandler, loaded with lumber, parted her tow line near White Fish Point, on Lake Superior, and went ashore four miles east of the Deer Park life-saving station with the loss of one man, the schooner becoming a total loss. The barge Sunshine was waterlogged and abandoned on Lake Erie, the crew being rescued by the propeller Hadsen. The Sunshine was eventually picked up and towed into port. The schooner A. P. Nichols dragged ashore on Pilot island at Death's Door entrance to Green Bay, and filled with water. The schooner H. P. Baldwin was driven ashore, and filled near Colchester, Lake Erie. The steamers Canisteo, with consorts S. B. Pomeroy and Stewart, stranded twelve miles below Chiboygan, and the scow Essex on Light-house Point, near the same place. The schooner Lillie Pratt drove ashore near Frankfort, the steamer City of Naples stranded on False Presque Isle, and the tug Onward was driven against the piers and sunk at Traverse City, Michigan.

*Disappearance of the Gilcher.*—There were many other casualties, but the most calamitous page in the chapter was the disappearance of the large new steel steamer W. H. Gilcher with all hands, and the schooner Ostrich on Lake Michigan laden with 3,000 tons of coal. Capt. Lloyd H. Weeks, who was in command of the Gilcher, was a master of undoubted seamanship and experience, and had a capable crew of 16 all told, none of whom escaped to verify any of the theories that were formed to account for her disappearance. The most accept-

able view regarding the loss of the Gilcher is that she was in collision with the schooner Ostrich, Captain McKay, owner and master, with a crew of six. In support of the above theory, Captain Stufflebaum, master of the steambarge Hattie B. Perene, reported that he had examined some wreckage on High island, Lake Michigan, consisting of the "string backs," which held the canvas covers of the Gilcher's lifeboats. They had been cut into with an axe, which clearly indicated that the crew had rushed to the lifeboats in great haste and did not have time to pull off the awning in the ordinary way. From the fact that the lifeboats were never found, it seems probable that the steamer went down before they could be freed from the davits. Wreckage of the schooner Ostrich and Gilcher lay on the beach not 100 feet apart.

*Foundering of the Nashua.* The propeller Nashua, laden with lumber from Georgian Bay to Toledo, foundered on Lake Huron, October 4, with all hands, 14 souls in all. Wreckage drifted ashore between Bayfield and Goderich.

*Loss of the John Burt.* On September 26, the schooner John Burt, of Detroit, was wrecked three and one-half miles south of the Big Sandy life-saving station on Lake Ontario. Two persons were drowned. The John Burt was a three-masted schooner, built in Detroit in 1871, of 348 gross tons. She was bound from Chicago to Oswego, and had almost reached her port of destination when her rudder head gave way in a furious gale from the northwest, and she became unmanageable and was driven past her port down the lake. She was sighted from the Big Sandy station under a reefed foresail and two head sails drifting toward the shore, heavy rain squalls prevailing. When the weather again lighted up, Keeper Fish, of the station, again sighted her three miles from the station, and judging that she was powerless to contend with the storm, launched the lifeboat in the creek and pulled across, landing just as the schooner came up in the wind and let go her anchors two miles to the southward, but dragging her anchors toward the shore until the cables parted and she stranded, the waves

leaping completely over her, and the crew in the mizzen rigging.

The life-savers fired a line squarely through the main rigging. The crew, however, did not seem disposed to use the line thus sent them. Two abandoned their places of refuge in the shrouds and leaped into the boisterous waves. Four surfmen, with life lines attached to their bodies, reached the struggling sailors and assisted them to land. The mizzen mast soon went by the board, followed by the main mast a moment later, precipitating the hapless crew into the lake. The life-saving men then, with lines attached, entered the water and rescued three more of the sailors.

*Other Events of 1892.*—April: Schooner John B. Merrill sunk by collision with the steamer Mercur at Bar Point. Schooner Mystic Star sunk at Fair Haven. Schooner Sophia J. Luff wrecked in Georgian Bay. Schooner Annie Sherwood wrecked off Eagle river. May: Steamer Celtic sunk by collision with the Russia off Point Rondeau. Steambarge Yosemite burned at Emerson. Tug Saginaw burned at Windsor. Schooner Hattie Perew waterlogged near Milwaukee. Tug Spinney sunk at Toledo. Propeller Mayflower sunk at Sandusky. Steambarge W. P. Thew burned off Chicago. Barge Brooklyn waterlogged at Alpena. Schooner Josephine sunk at Lake George Flats by collision with the Aloha. Steamer Kalamazoo sunk by collision with the Pilgrim on Lake Michigan. June: Steamer Progress sunk by collision with the steamer Briton in Detroit river. Schooner Persia wrecked at Racine Reef. Schooner Magnet sunk in Detroit river by collision with the Glencora. Tug Winslow sunk near Point Pelee. Steamer A. E. Wilds sunk by collision with the Douglass off Milwaukee. Tug Danforth sunk at Duluth. Schooner Fred. A. Morse sunk by collision with the John C. Pringle at Thunder Bay. July: Barge C. H. Davis waterlogged at Buffalo. Steamer Island Belle destroyed by lightning at Grand island. Barge H. S. Walbridge destroyed by fire in Detroit river. Schooner General Burnside sunk on Lake Erie. Steambarge Nelson Mills wrecked off Nanbenmay. Steamer R. P. Flower wrecked near Wauga-

shance. Schooner Cheney Ames sunk at Muskegon. Schooner Mary D. Ayer waterlogged off Whitefish Point. Tug Chicago sunk by collision with the steamer City of Concord off Chicago. August: Steamer Princess Louise sunk by collision off Thompson's Point. Steamer Remora sunk at St. Ignace. Steambarge S. Neff sunk at Cleveland. Schooner City of Toledo capsized on Lake Michigan; several lives lost. Steamer Kitty M. Forbes sunk at Cleveland. September: Tug John A. Paige burned on Lake Superior. Schooner Guiding Star abandoned at Big Bay Point. Schooner Fanny Campbell waterlogged off Goderich. The Dan Kunz sunk at Sandusky by collision with the steamer Roland, afterwards raised. October: Steambarge Richard Martini sunk by collision with a schooner at Bar Point. Tug McVea burned in River St. Clair. Steambarge Canada burned at Port Huron. Barge Jupiter waterlogged off Black river. Schooner J. E. Gilmore wrecked at Garrett's bay. Steambarge Roland sunk near Green Island. Barge Samona wrecked at Cleveland. Schooner Zack Chandler ashore and wrecked at Deer Park. November: Tug James Amadeus sunk near Point Pelee. Canadian schooner Marquis a total loss at Forest bay. Schooner Minnie Davis sunk by collision with the schooner Hunter Savidge near Point Mowia. Tug C. J. G. Monroe burned at Port Colborne. Schooner Nelson sunk at Lime Kiln Crossing by collision with the Susan D. Peck. Schooner Grace Murray sunk at Bar Point. Schooner Annie Vought, ashore at the Manitous, goes to pieces. December 12: Steamer Notherner burned at her dock at L'Arse. Valued at \$50,000.

1893.

*Fatal Collision of the Albany and Philadelphia.*—The steel steamer Albany of the Western Transit Company and the iron steamer Philadelphia of the Anchor line collided on Lake Huron off Point aux Barques early on the morning of November 7, in a dense fog. Both vessels went down and twenty-four lives were lost. The Philadelphia caught the Albany just forward of No. 2 gangway, smashing in the steel plates



and pushing her nose several feet into the Albany's body. The Philadelphia's nose was smashed flat, but for a few minutes after backing away seemed to make but little water. The Philadelphia threw out a line, took the Albany in tow and headed for Point aux Barques, 12 miles distant. The Albany filled rapidly. Within 30 minutes the men took to the yawl, and soon after the Albany went down stern first in 200 feet of water. The Philadelphia took aboard the Albany's crew, and under full steam made for shore. She soon began to settle, and at the same time the wind began to blow stiffly from the north, lifting a choppy sea. Captain Hoff, of the Philadelphia, decided to take to the yawls. Twenty-two men, including Captain Hoff and Capt. A. J. McDonald, of the Albany, and 20 men entered the smaller yawl and 24 men the larger. The former made shore without trouble. The latter capsized, and all on board were lost. The fog was so dense that the two boats soon parted after leaving the sinking steamer. Eleven bodies, all wearing life preservers, were recovered, and the missing boat was found bottom up.

*Loss of the Eddy.*—The total loss with all hands of the stanch well-formed schooner Newell A. Eddy, Captain Barton, at the Lake Huron entrance to the straits, was one of the most serious losses for this season. The stern of the Eddy was washed up near Bois Blanc light. During the life of this storm, which did not blow itself out for several days, 23 vessels were victims of its violence, 12 stranding, four foundering, three disabled, four damaged in hull, two by collision. Had Lake Superior been open to navigation there would no doubt have been other serious losses to add to that terrible storm.

*Destructive October Gale.*—The northwest gale that prevailed over the lakes on October 14 and 15 was the most destructive to life and property that had been experienced for many years, the gale registering as high as 60 miles an hour. A careful record places the loss of life at 41; two vessels were totally wrecked and 29 stranded. The steamer Dean Richmond, valued at \$115,000, foundered off Dunkirk, Lake

Erie, Capt. G. W. Stoddard, Chief Engineer Evans and 13 others going down with her. The steamer Wocoken, valued at \$65,000, foundered on Lake Erie. Capt. Albert Meswald, who was in command, Michael Hinekelman, chief engineer, and a crew of twelve found watery graves. Captain Meswald was part owner. He had enlisted and served in a Michigan regiment during the war of the Rebellion, and three years after the close of the war he began sailing the Genesee Chief, owned by Capt. S. B. Grummond, of Detroit. His wife is a sister of Captains John and Alfred Mitchell, of Cleveland.

The schooner Minnehaha, valued at \$48,000, stranded at Onekena. Captain Parker, who was sailing her, was the only survivor out of a crew of seven.

The schooner Annie Sherwood went ashore waterlogged 30 miles above White Fish Point, Lake Superior, and Capt. Louis Guthrie, of Chicago, and one seaman perished from exposure.

The schooner Pelican, Capt. Barney Gray, foundered off Ashtabula in about eight fathoms of water May 16, taking down with her the mate and three seamen. The schooner R. J. Gibbs also foundered while riding at anchor off Bar Point, Lake Erie. The crew was rescued by the steamer Iron Chief. She was built in Vermilion by Squires in 1855.

The Canadian steamer Byron Trerice was destroyed by fire at Leamington September 12, with a loss of three lives. The Trerice had been plying on the Cleveland-Rondeau route, and put in at Leamington for shelter.

*Curious World's Fair—Visitors.*—An interesting event of 1893 was the arrival of three Spanish caravels, the Santa Maria, the Pinta and the Nina, constructed in Spain in close imitation of the Spanish fleet in which Christopher Columbus, four centuries earlier, had made his first and successful voyage of discovery to America. These antique models were manned in Spain and crossed the ocean in safety. They were among the most interesting spectacles at the World's Fair, and are now passing into decay in the lagoons at Jackson Park, Chicago.



Another curious foreign arrival in 1893 was the little Viking, a Scandinavian craft, of ancient build, which won unbounded admiration at the World's Fair, and then with the typical restlessness of the old Norse Kings left the strange waters of the Great Lakes and returned to the Fatherland.

*Statistics.*—During the season 53 vessels passed out of existence, involving a loss of tonnage of 24,258, valued at \$1,040,400; the partial losses, \$1,072,180; making a total of \$2,112,588.

Of the casualties 59 occurred on Lake Erie; 33 on Lake Huron; 10 on Lake Superior; 12 on Lake Michigan; 4 on Lake Ontario; and 5 on Detroit river.

The total loss of life during the season aggregated 123, against 99 for the previous year. It is notable that of the immense number of passengers carried on the various pleasure boats in commission at Chicago during the World's Fair but one passenger was lost, James M. Cutler, a real-estate dealer of Chicago, who fell overboard from the steamer City of Toledo, near Jackson park.

*Other Events of 1893.*—April: Schooner Tuxbury sunk near Turtle Light. Steamer City of Naples collides with and sinks the schooner City of Cheboygan at Lighthouse pier. Schooner Keewaunee wrecked at Racine. Tug Sea Gull burned in the straits of Mackinac. Steamer Ohio severely damaged by a gale on Lake Huron. Barge E. F. Gould waterlogged near West Sister island. Schooner R. B. Hayes foundered off Chicago. Schooner Lumberman capsized off Racine. May: Schooner Vienna wrecked at Manitou beach. Dredge Continental sunk at Conneaut; five men drowned. The barge M. R. Goffe sunk by collision with the schooner Iron Cliff, below Stag island. June: Schooner Corsican sunk by collision with the steamer Corsica off Thunder Bay island. Steamer Arcadia sunk in the Cornwall canal. Tug Osborne burned at the Ottawa river. Steambarge S. C. Clark burned off Port Sanilac. July: Steamer Tom Maytham sunk by collision with rocks at Cedar point. Schooner John Rice capsized off Thunder Bay island. Dredge Lorain foundered at Sandusky.

Tug C. C. McDonald burned near Saginaw. Steamer Skater burned at Manistee. August: Barge Oneonta sunk at Cleveland. Steambarge Josephine burned at Johnson's island. Tug Louis Wallace burned at Onkama. Steambarge Mary Pringle burned at Port Huron. Schooner Laura sunk on Lake Ontario. Tug Annie Laurie burned at the Sault. Steambarge Oneida burned on Lake Erie. Steambarge Ellida sunk at Duluth by collision with the steamer Lucille. Tug O. Wilcox foundered on Lake Huron. Barge McDougall waterlogged off Erie. The Jennie Mathews, H. J. Mills and William Wheeler lost on Lake Ontario. September: Steamer Arctic sunk off White Rock. Schooner L. D. Bullock stranded at Braddock's Point; abandoned. Barge Huron sunk near Cardinal, Ontario. Schooner Hattie Earl wrecked near Michigan City, Ind. Barge Michigan foundered on Lake Superior. Barge Samuel Bolton wreck near Richmondville on Lake Huron. Schooner D. R. Martin waterlogged at Milwaukee. Steamyacht Tallahoosa burned off Long river. Schooner Margaret A. Muir foundered off Ahnapee. Tug Mystic burned at Ransom's Landing. Schooner Louisa E. Glade sunk at Manitowoc. Tug Maggie Carrell burned at West Superior. October: Schooner Windsor wrecked at Cana island reef. Schooner David Stewart foundered at Pigeon bay. Steamer Ida M. Torrent burned at Cross Village, Mich. Tug Acme foundered near Black River. Steambarge S. C. Clark burned on Lake Huron; sold for \$205. Schooner George wrecked at Pictured Rocks. Schooner Amboy wrecked off Buffalo. Schooner Riverside lost on Lake Erie. Schooner C. B. Benson lost in Gravelly bay. November: Steamer Burlington sunk near Sand Beach. Steamer C. B. Lockwood sunk by collision with the E. A. Nicholson at the Lime Kilns; valued at \$130,000. Steambarge Lowell burned at Port Huron. Tug Day capsized near Toledo. Tug M. I. Cummings burned at Cape Vincent. Tug George Douglas burned off Griffith island. Tug Beebe burned to the water's edge at Put-in-Bay and sunk. December: Tug W. R. Crowell foundered near Michigan City. Steamer

Waldo A. Avery burned at the Straits. Steamer City of Concord burned at Toledo. Steamer Mascotte burned at her dock at New Baltimore.

1894.

*Loss of the Cummings.*—The schooner M. J. Cummings, Capt. John McCulloch, foundered in the storm of May 18 on Lake Michigan, near Milwaukee, in 18 feet of water, forcing the crew of six into the rigging, where they clung many hours exposed to the fury of the gale. The lifesaving crew made a courageous but futile effort to rescue them with the lifeboat. In the afternoon the keeper and two of the crew of the Racine station and one of the crew of the Milwaukee station fell in with and assisted a party of volunteers in the attempt to rescue the survivors and surfman Gurdes, of the Milwaukee station, who had gained a footing on the wreck when the lifeboat was capsized the first time. Three of the crew of the vessel had drowned and two perished from exposure while lashed to the rigging. The last effort was made with the lifeboat of the steamer Nebraska, astern of a heavy scow in tow of the tug Hagerman. The tug took its tow well to windward of the wreck, but the boat came into collision with the scow and knocked a hole in her bow. She was slacked down without sending any crew to the rigging in which the three survivors were stationed. The mate lost his footing and was drowned, but the other two embarked safely. They reached the beach without further accident. Six of the seven persons composing the crew of the Cummings were lost.

*Other Events of 1894.*—During the fierce gale of May 18, the schooner Myrtle carried away her rudder and drifted foul of two other schooners near Chicago harbor, causing her masts and bowsprit to go by the board, and leaving her helpless in the seaway. The life-saving crew made an attempt to tow out to the schooner, but the life-boat was capsized by the breakers and the crew narrowly escaped drowning. Shortly afterward the Myrtle stranded off Twenty-fifth street, and went to pieces, drowning all hands, comprising six men.

The schooner Myrtle M. Ross caught fire early in the morning of July 10, near South Haven, Mich. Four of her crew were imprisoned in the cabin by the flames, the escape scuttle being obstructed by a cargo of cord wood. The life savers at the station took the fire apparatus to the steamer uncovered the scuttle and saved two of the crew, and with the assistance of the city fire department saved the vessel and cargo. As a result of this casualty four lives were lost. The schooner Hartford was overtaken by a storm on October 11, and went to anchor six miles south of Big Sandy station, Lake Ontario, when she foundered, drowning a crew of seven people. April: Steamer William H. Barnum sunk at the Straits. Steamer Minneapolis sunk by ice at the Straits. Schooner H. D. Root sunk near Put-in-Bay. Schooner Lottie Cooper wrecked off Sheboygan; one life lost. Schooner Island City sunk on Lake Michigan; two lives lost. Steam-barge Burlington burned in Detroit river. Tug Truant burned on Georgian Bay, near Burnt island. May: Steamers S. S. Curry and A. D. Thompson seriously damaged by collision at Little Lake George. Schooner William Shupe waterlogged near Port Huron; several lives lost. Tug Pacific sunk at Upper Portage Lake Canal by collision with the H. C. Richards. Schooner Lem Ellsworth foundered on Lake Michigan; seven lives lost. June: Steamer Ocean and barge Kent sunk by collision near Alexandria bay. Steam-barge W. P. Thew destroyed by fire at Bay City. Tug Giant sunk in Saginaw river. Tug Geo. B. McClellan sunk at her dock in Chicago. Dredge General Meade foundered on St. Clair Flats. July: Steamer White Star burned at Cheboygan. Schooner Glad Tidings sunk by the steamer Pathfinder near Grassy island; four lives lost. August: Steamer Roanoke burned off Fourteen Mile Point. Tug True sunk at Sandusky. Ferry Richmond sunk by collision with the steamer Puritan at St. Joseph. City of Nicollet sunk at Sandusky. Schooner Cobb sunk by collision with the steamer America. Tug Cheney crushed and sunk by the steamer Fayette Brown at Sault Ste. Marie.

September: Steamer Robert Mills severely damaged by collision with the H. J. Jewett in the Straits. Schooner Mabel Wilson sunk by collision in St. Clair canal. Schooner William Howe sunk near Seulchoix Point; six lives lost. Schooner American sunk near Stony Point. Steamer Ohio and schooner Ironton sunk by collision on Lake Huron; five lives lost. October: Schooner John Wesley waterlogged on Lake Huron. Schooner Alva Bradley foundered in Lake Michigan. Steamer D. M. Wilson foundered in Lake Huron. November: Steamer Seattle wrecked near Rondeau harbor. Steamer S. C. Baldwin sunk by collision with the Iron King at Marine City. Tug Mary and Norman burned at Vermilion. Tug C. H. Lamb sunk at Sandusky. Schooner John Shaw foundered at Au Sable. Schooner Antelope capsized off Grand Haven. Schooner D. S. Austin wrecked at Ludington. Schooner N. P. Barkalow sunk at Toledo. Steamer Ida Keith sunk in Niagara river. December: Tug C. G. Curtiss sunk at Cleveland. Tug Isabel sunk at Alpena. Capt. John Pridgeon, at one time the largest vessel-owner on the lakes, died at his home in Detroit.

The following vessels also passed out of existence during the season of 1894: Steamer: James Pickard. Tugs: A. L. Smith, Crusader and Joseph Heald; all burned. Schooners: American Union, Col. Cook, Lottie Cooper, Lincoln Dall, Evening Star, Moses Gage, Prince Alfred, H. B. Moore, J. L. McLaren, Mercury, C. G. Mixer, Rainbow, Jack Thompson, Ida, Wyandotte, Jennie Mullen, Baltic, D. G. Fort, L. M. Guthrie, Julia Miner, Silver Lake, Lulu Whiting, Gazelle, Speed, Magnolia, St. Catharines, and Ada; all stranded except the Lottie Cooper, which foundered.

1895.

*Loss of the Chicora.*—In a terrible mid-winter storm the steamer Chicora, of the Graham & Morton Transportation Company's line, was lost January 21 between Milwaukee and St. Joseph with her crew of

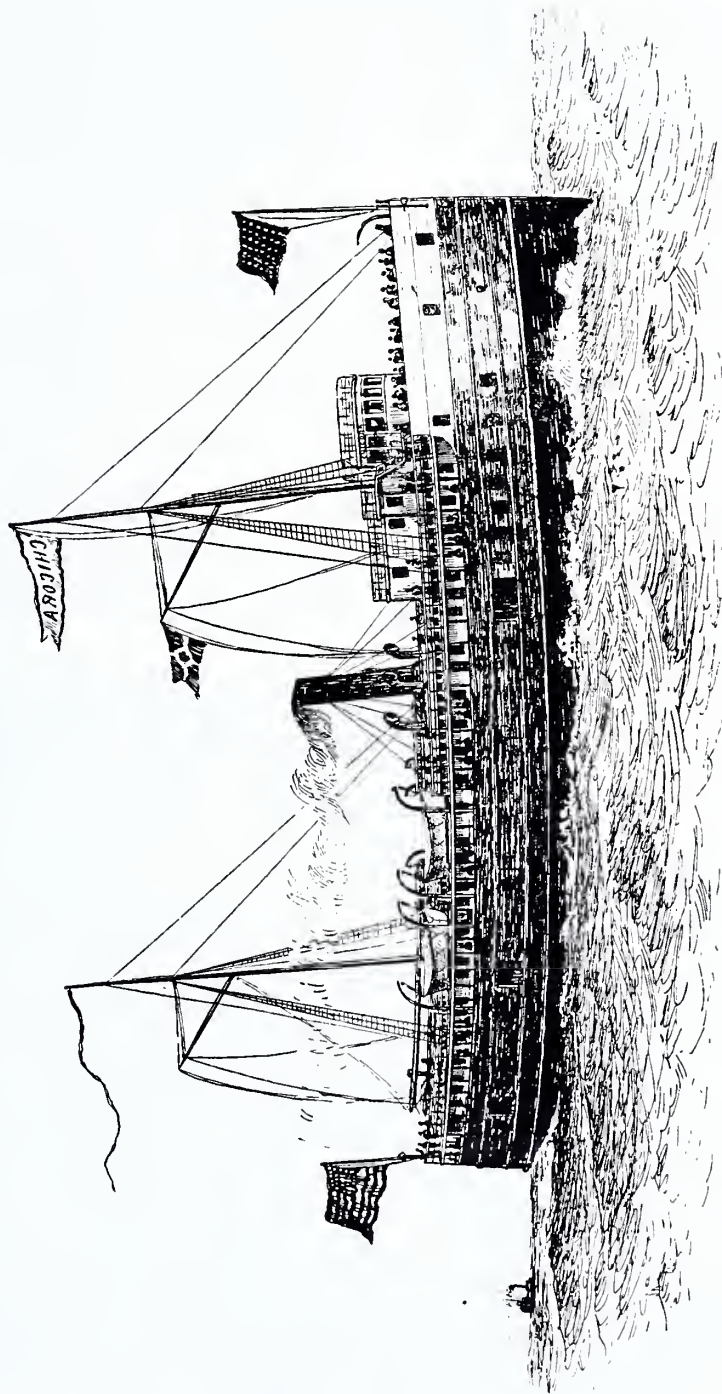
23 and her only passenger. The steamer left Milwaukee for St. Joseph about 5 o'clock on the morning of January 21 while the weather was mild and the lake smooth, shaping her course directly for her destination. The barometer was unusually low, but Capt. Edward George Stines, her commander, nevertheless left port promptly on time. President Graham at his home in St. Joseph that morning discovered the alarming atmospheric conditions, and hastily notified the commander of the steamer Petoskey, then lying at St. Joseph, not to sail till the storm had passed. He wired the same instructions to Captains Stines, of the Chicora, but a little later learned that the vessel had already departed. The storm burst upon the lake as the day advanced, and no tidings to this day have come from the ill-fated Chicora, save that her spars and other wreckage drifted ashore between South Haven and Saugatuck some days later. The Chicora was due at St. Joseph at 12:30 in the afternoon, and for a day it was believed she might have sought shelter in some neighboring port; but hope fled as rescuing vessels plowed their way in vain through thick fields of ice and in zero weather which followed and continued for several weeks. It is believed she went down a few miles off South Haven.

The Chicora was built in Detroit in 1892. She was 217 feet long, 35 feet beam and 15 feet in depth. She was built for the heavy freight traffic of the Graham & Morton line, but the passenger quarters were luxuriously furnished. Her guaranteed speed was seventeen miles an hour. As she was engaged in mid-winter service, there was no insurance. The loss of vessel and cargo was \$175,000.

Nixon Waterman wrote the following verses, "Song and Sigh," in commemoration of this disaster:

Here's a song for the Chicora, for the beautiful Chicora:  
Proudly as a swan rides rode she o'er the undulating seas,  
Dancing o'er the gentle billows gracefully as bend the willows—  
Bend the lithe and happy willows to the breath of every breeze.

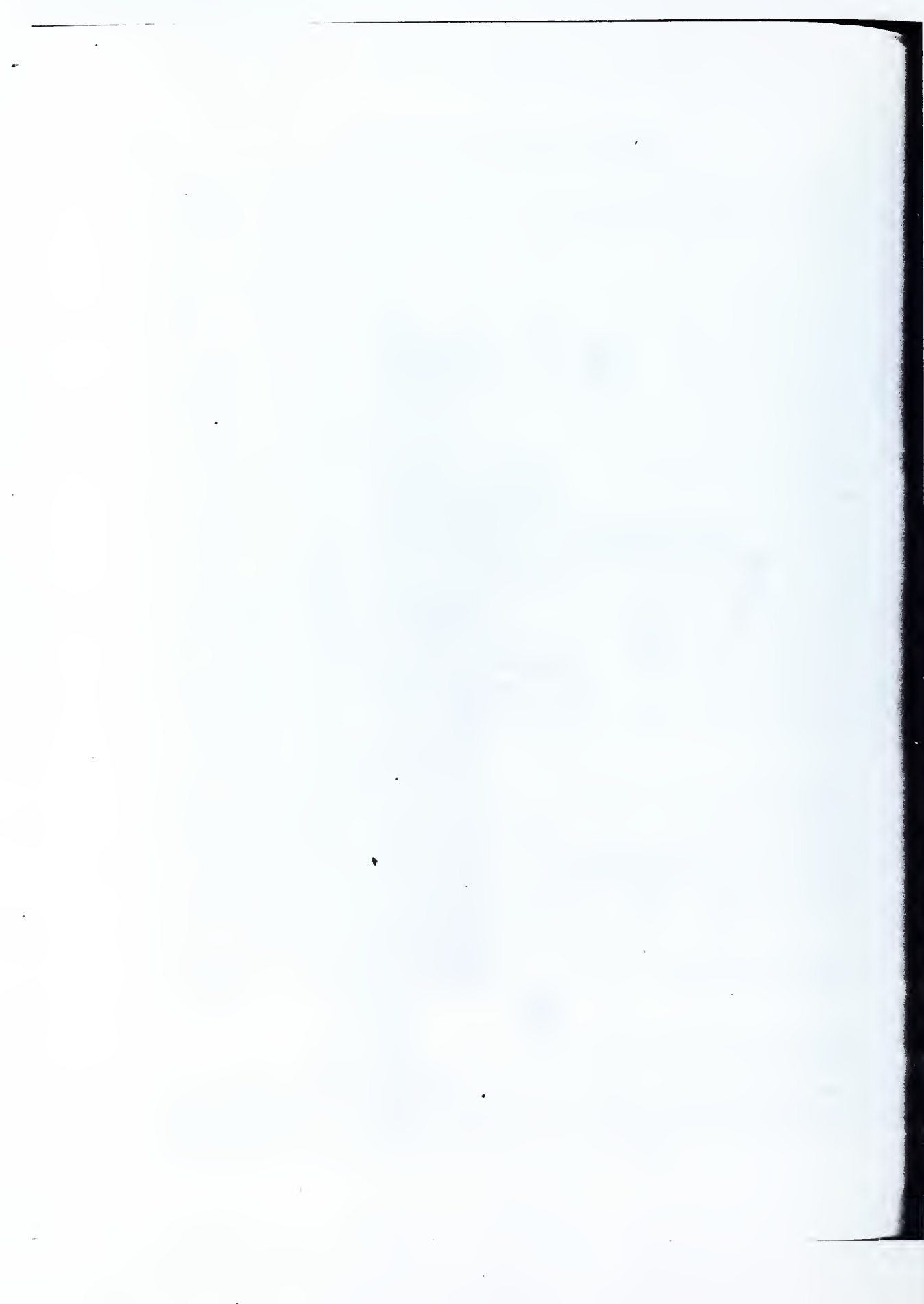




From "*American Steam Vessels*," Copyright 1895, by Smith & Stanton.

PROPELLER CHICORA.

Built at Detroit in 1892. Foundered during a gale in Lake Michigan, January 21, 1895; all on board perished.



From the bold and busy babble of a city's rush and rabble

To the fields of fruit and flowers went she ever to and fro;

Like a seabird flitting over to the land of soft, sweet clover,

To the bloom wreathed vales of gladness, to the hills of "Old St. Joe!"

\* \* \* \*

Oh, the hearts that watched her going, ever smaller, smaller growing,

Out upon the seeming shoreless waste of waters glad and free,

Growing dimmer, dimmer, dimmer, in an iridescent shimmer,

Until a speck she faded 'tween the blue of sky and sea.

Here's a sigh for the Chicora, for the broken, sad Chicora;

Here's a tear for those who followed her beneath the tossing wave.

Oh, the mystery of the morrow! From its shadows let us borrow

A star of hope to shine above the gloom of every grave.

*Loss of the St. Magnus.*—One of the singular disasters of the season was the fate of the Canadian line propeller *St. Magnus*, of Hamilton, Ont. While lying at dock at Cleveland on the evening of June 7, she listed and quietly sank. At great expense she was raised some weeks later and towed to Port Dalhousie. While on dry dock there, September 5, she took fire and was totally destroyed; one life was lost.

*Foundering of the Africa.*—The steamer *Africa*, of Owen Sound, having in tow the barge *Severn*, both being loaded with coal, from Ashtabula, Ohio, to Owen Sound, Ont., encountered a severe gale on Lake Huron. The tow line parted and the *Africa* fell into the trough of the sea and foundered, all hands on board, 13 in number, being lost. The *Severn* went ashore in the vicinity of Lyal island, and went to pieces, though her crew were all saved.

*Low Water.*—The influence of low water upon cargoes was shown by a table compiled by the *Marine Review*. It gives the first cargoes of 43 vessels for the season of 1894 at 90,769 tons. For the season of 1895 the first cargoes of the same vessels

were only 83,467 tons, an average loss of 8 per cent. The average draft at the Sault canal was about 13 feet 8 inches, or about 10 inches less than the draft of 1894.

*Five Fatal Disasters.*—The tug *Pearl B. Campbell* became heavily encompassed with ice in a heavy northeast gale and blinding snowstorm on Lake Superior, December 27, and foundered off Huron islands, carrying down her crew of seven. The schooner *Kate Kelley* foundered, May 14, off Racine Point, during a heavy gale of wind; the entire crew of seven were lost. Two lives were lost from the schooner *Naiad*, dismasted during a sudden squall, in July, off Charlevoix. The schooner *Nellie Duff* foundered off Lorain, in October, with the loss of three lives out of the crew of four. The steamyacht *Gitana* foundered near Tibbett's light, St. Lawrence river, in June; the crew of three were drowned.

*Loss of the Missoula.*—The steamer *Missoula* broke her shaft in a heavy southwest gale on Lake Superior, November 1. She broached to, foundered and became a total loss off Caribou island. The crew took to the small boats, and finally reached the Canadian shore after great suffering. Several days elapsed before they reached an inhabited district.

*Other Events of 1895.*—April: Steam-barge *Sakie Shepard* foundered off Turtle island. Barge *Fostoria* waterlogged at Port Huron. Steamer *A. Everett* sunk off Point aux Barques. Barge *Bahama* sunk at Alpena. May: Steamer *N. K. Fairbank* burned at Morgan's Point. Steamer *Guide* burned and sunk at Oswego. Schooner *S. H. Kimball* sunk off Point aux Barques by collision with steamer *George Stone*. Steamer *Cayuga* sunk near Skillagalee light by collision with steamer *Joseph L. Hurd*; damage to both vessels and cargoes about \$300,000. Quickstep wrecked off Racine. Steamer *Unique* wrecked at St. Clair. Schooner *Reindeer* stranded at Black River. Steamer *Niagara* sunk at Port Colborne. Steamer *Norman* sunk on Lake Huron by collision with the Canadian steamer *Jack*; valued at \$200,000; insured for \$175,000; three lives lost. June: Tug *John Evan-son* sunk by collision with the schooner

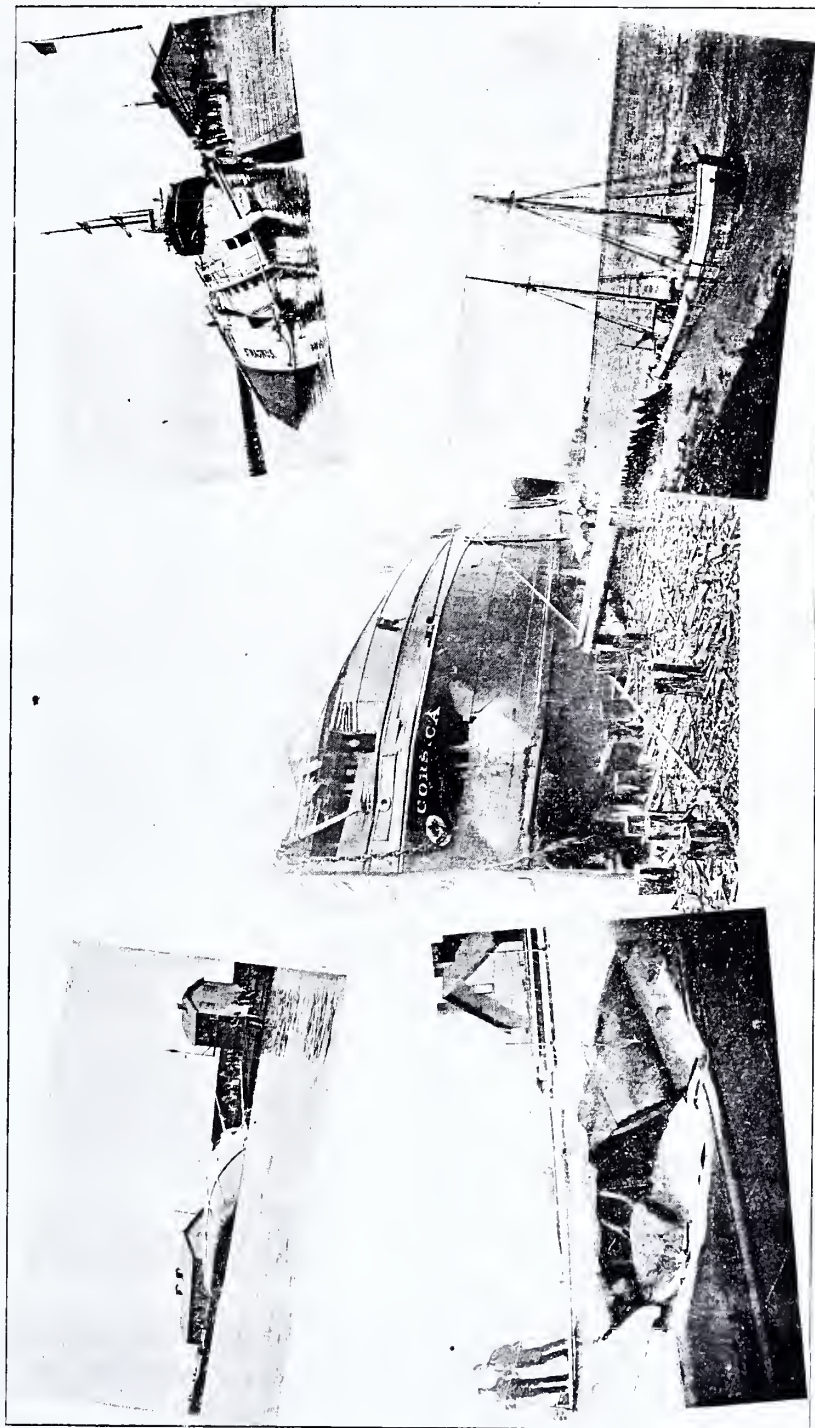


Watson, near Ahnapee. Steamer Salina sunk by the Lizzie A. Law, near Bay City. July: Canadian passenger steamer Cibaba burned at Lewiston; the boat was launched at Deseronto, in 1887, and cost \$200,000; one life lost. Steamer Nyanza sunk by collision with the Northern King at the foot of Sugar island; valued at \$110,000. Schooner Republic sunk off Lorain. Schooner Ida May Brown capsized on the beach at Michigan City, and became a total loss. August: Steamer Alva sunk by collision with whaleback barge 117 at the Sault. Steamer Burlington burned in Weldrum bay. Steamer Britanic sunk by the steamer Russia, near Upper Grosse Isle; one man drowned. Tug Siskiwat burned at Port William. Steamer Idlewild collides with and sinks the schooner Ferret, at Toledo. Steamer John Otis damaged by lightning, on Lake Michigan. Canadian steamer Daisy, of Port Hope, totally destroyed by fire. September: Steamer C. A. Forbes burned near Bay City. Schooner Evaline capsized near Kewaunee. Tug Ella Smith sunk near French river, Georgian Bay. Schooner J. H. Magruder wrecked near Harrisville. Schooner Arctic sunk by collision with the propeller Clyde near Point aux Barques. Tug W. F. McRae sunk near Marine City. Schooner Queen City wrecked at Hog island reef. Schooner A. W. Comstock foundered off Standard rock during a 70 mile gale. Schooner E. R. Williams sunk on Green bay. Schooner C. H. Johnson went to pieces at Groscap. Steamer Mark Hopkins sunk by the steamer Vanderbilt in Hay lake. Steamer Montana sunk in the Portage Lake canal. Steamer Gracie Barker burned at Harbor Springs. Steamer Robert L. Fryer sunk in Hay lake by collision with the steamer Corsica; subsequently raised. Steamer Mark Hopkins sunk in the Sault passage. Schooner Odd Fellow stranded at Sauk's Head. Schooner Phantom foundered off Little Sable Point. Schooner C. A. King foundered off Point aux Barques. Barge R. J. Carney wrecked at Shelldrake. Schooner Elma wrecked on Lake Superior; one life lost. Steamer C. J. Kershaw stranded at Chocolog reef during a

heavy northeast gale; the vessel broke in two and sank in deep water, becoming a total loss; the schooners H. A. Kent and Moonlight, in tow, also wrecked. October: Schooners Itasca and Mary sunk above Port Huron by the steamer Parks Foster. Schooner Otter wrecked near Sturgeon Bay. Schooner Hanlon burned off Bushy island. Schooner C. N. Johnson sunk near Amherstburg. Steel steamer America sunk by the steamer W. H. Gilbert at Rains island. Schooner B. F. Bruce sunk at Sailors Encampment. Steamer John Craig sunk at Ballard's reef. Schooner H. C. Richards foundered off Little Point Sable. Steamer Alexandria sunk in St. Lawrence river. Canadian steam yacht Sea Gull burned at Port Perry. Schooner G. W. Davis foundered near Point Maitland, Lake Erie. November: Schooner Columbia sunk in Niagara river. Steamer Missoula foundered on Lake Superior. Canadian schooner Dauntless wrecked near Fort Gratiot. Tug Elk sunk by steamer Syracuse at Buffalo. Steamer Michael Groh totally wrecked off Pictured Rocks. Schooner Mattie Bell stranded at Big Summer island. Propeller J. M. Almendinger stranded and lost at Fox Point. Barge Nicholson stranded and lost near Lakeside, Lake Michigan. December: Tug Wright sunk at Green Bay. Schooner Geo. W. Adams sunk by ice near Colchester. Tug Erwin sunk at Sandusky. Tug Roy sunk by ice on Lake Erie. Schooner Julia Willard sunk near Middle Sister island.

1896.

*Statistics of Marine Losses.*—The losses during the season of 1896 were confined almost exclusively to the old-time low-grade vessel. Hence it was a prosperous season for lake underwriters, as in most cases there was no insurance of any nature. The summary shows a total of 35 vessels with 21,425 net tons that passed out of existence, involving a money loss of \$386,500. The list includes but one really valuable vessel, the Australasia, which was destroyed by fire on Lake Michigan in October. The City of Kalamazoo, a passenger steamer of



# WRECK SCENES.

Propeller St. Magnus turned turtle.  
A Whaleback collision.

Propeller Corsica after a collision.

St. Magnus keeled over at Cleveland.  
Schooner Samana on the beach.





728 tons was burned at South Haven, November 30, but not totally destroyed.

*Loss of the Ayer.*—The schooner Mary D. Ayer collided on Lake Michigan, May 17 with the steamer Onoko during a dense fog. The schooner drifted some distance after the collision, and was taken in tow by the steamer City of Duluth. She was afterwards abandoned, and foundered with the loss of five lives.

*Four Lives Lost.*—In a heavy north gale the barge Sumatra, of 1,400 tons, in tow of the steamer B. W. Arnold, was disabled and foundered off Milwaukee. Two of the crew were rescued by the harbor tug and one by the life-saving crew. The remaining four of the crew perished.

*The schooner Waukesha foundered* at her anchorage off Muskegon, Nov. 7, in a heavy gale of wind, and became a total loss. Six of the crew of seven were lost. The Waukesha was of 600 net tons capacity.

*Other Events of 1896.*—April: Barge 104 sunk by collision with steamer Philip Minch at Lake St. Clair; afterwards raised. Tug Wisconsin foundered in Lake Erie; afterwards raised. Tug Peter Dalton sunk in Lake Huron. Canadian tug Eva destroyed by fire at Lindsay. May: Steamers L. C. Waldo and Choctaw collide at the Sault by which the latter was sunk; afterwards raised. Schooner Sunrise sunk by collision with barge 133 on Lake Michigan. Barge Transfer sunk at Lorain; afterwards raised. Barge Arthur sunk in St. Lawrence river. Steamer Grace Williams sunk in Lake Michigan. June: Barge Mikado waterlogged off St. Joseph. Steamer Samuel T. Hodge burned and sunk near Oak Orchard. Schooner R. Canters stranded at Pilot island. July: Capt. Hugh Chisholm died at Meaford, Ont.; he built the first center-board schooner on the lakes. Schooner Little Wissahickon foundered near Rondeau; Capt. George McKay and two of the crew drowned. Schooner Walbridge total wreck at Long Point. Steamer Samoa sunk in the St. Lawrence river; afterwards raised. Canadian steamer Maganetawan, of Collingwood, ran on a shoal near Byng inlet and went to pieces. August: Schooner yacht Hawthorne sunk

near Chicago by collision with the steamer Iowa; afterwards raised. Schooner Eme-line, capsized near Death's Door, released. Steamer Ogden sunk at Duluth. Schooner Phineas S. Marsh foundered in Lake Superior; crew rescued by life-savers. Steamer Harvey Watson, burned at Holland, Mich., rebuilt. Schooner Granger driven ashore at Seul Choix Point, Lake Michigan, and became a total loss. Schooner City of the Straits burned at Ontonagon. Canadian tug James Clark burned at Owen Sound. Canadian tug Verbena May totally wrecked near Stokes bay. Canadian steamer Victoria foundered in Georgian Bay. September: Schooner Colonel Ellsworth sunk at the Straits by collision with the Emily B. Maxwell. Schooner Bertha Winnie capsized in Lake Erie. Steamer Harry Cottrell foundered near Bar Point. Steamer Northland sunk at the dock at Duluth; afterwards raised. Schooner Wm. Crosthwaite sunk by collision with the passenger steamer City of Mackinac; afterwards raised. Barge Sovereign capsized in the Bay of Quinte. Schooner Sweepstakes stranded on Lake Erie; lost. Schooner Gilbert Knapp ashore at Good Harbor bay, Lake Michigan, and a total loss. Canadian steamer Baltic burned at Collingwood. Schooner J. R. Pelton stranded on Lake Erie; lost. Schooner David Macy sunk by collision on Lake Erie. October: Propeller Loretta burned at Lorain. Steamer Grand Traverse sunk by collision with the Livingstone near Colchester. Schooner T. Y. Avery sunk at Chicago; afterwards raised. Steamer Mariska sunk at Buffalo; afterwards raised. Schooner Samuel P. Ely lost near Two Harbors. Steamer Australasia, of 2,200 net tons, burned on Lake Michigan. Schooner Transfer and steamer Alleghany stranded on Lake Michigan. November: Tug L. B. Johnson capsized near Chicago. Steamer Wallula, driven ashore and burned near Conneaut, released. Schooner Brenton wrecked at Cleveland. Steamer B. W. Arnold burned and ashore near Salmon Trout river. Canadian steamer Acadia fatally stranded on Lake Superior. Schooner Success stranded on Lake Michigan. City of Kalamazoo burned at South Haven; rebuilt. Decem-

ber: Steamer L. R. Doty burned at Chicago; rebuilt.

1897.

*Wreck of the Idaho.*—The wreck of the steamer Idaho off Long Point, on the night of November 5, was the most serious disaster of 1897 on the Great Lakes. This is true as regards both the number of lives lost and the monetary loss. The vessel sank, and with her went down 19 of the 21 men who constituted the ship's company. The two survivors were Louis LaForce, second mate, and William Gill, a deck hand. The steamer herself was old, and was insured for not more than \$10,000 or \$15,000; but the amount of property aboard is estimated at from \$75,000 to \$100,000.

The Idaho left Buffalo with package freight for Milwaukee on the afternoon before the wreck. A November gale caught her before she reached Long Point. Her captain, Alexander Gillies, made the unfortunate decision to push on, leaving astern the safe shelter behind the Point. Twelve miles beyond Long Point the Idaho began to ship water, and part of the crew was ordered to the pumps. After a little while the water got into the engine room, and then in the fire hold. Then the captain attempted to head the steamer around to get back under Long Point. As she veered a great roller swept over her, throwing her into the trough of the sea and washing half a dozen of the crew off the deck into the lake.

All hands were at once ordered to the pumps except the watchman and a wheelman. One of the pumps broke, and the captain organized a line of fire buckets. Inch by inch, however, the water crept up until it was bubbling around the edge of the fires. In ten minutes the fires were quenched and the ship was at the absolute mercy of the sea.

All then went on deck to lower the anchors in the hope that the ship would right herself. While the men were giving more line to the port anchor the stern began to sink and every wave slopped over it. Suddenly the moon broke through the clouds and the crew got the first light they had

seen since the engine fires were extinguished. Gill saw the captain running forward, when a wave swept him far from the ship and as it passed the clouds closed over the moon and the night was black again.

Gill and La Force found themselves on the end of the deckhouse, and scrambled into the rigging as the Idaho went down. They scrambled to the crow's nest, and there the Mariposa found them in the morning.

While working at the pumps Gill and La Force had stripped themselves to shirt and trousers, and there they clung, sprayed by every wave. Others of the crew tried to launch one of the small boats and were swamped with it. Looking about them Gill and La Force saw that all their companions had been lost.

La Force, who was above Gill, sighted a vessel just at daybreak and signaled frantically for it, but it steamed by, and La-Force temporarily went mad with despair. He beat his head against the mast, prayed, sang and threatened Gill, whose position was less secure, and who was lost if he let go with one hand. To add to their misery, hail began to fall and cut their faces.

It was past noon when the Mariposa came in sight. The men were too stiff to signal her. They saw the Mariposa change her course, and Captain Root bring her alongside. He lowered a small boat, but it was wrecked instantly. Three times he tried it. Finally he brought the Mariposa right up against the spar, and her crew lifted the men aboard. Gill was so cold that he could not unfasten his hands.

La Force says he was in the hold when the stern began to sink. The crew made a frantic dash for the deck, and one of the men was trampled to death by his companions, madly eager to escape.

Resolutions adopted by the Buffalo Merchants Exchange, commending Capt. Frank Root of the Mariposa for his skill and courage in rescuing the two survivors, contained this paragraph: "In bringing a great steel steamer nearly 350 feet long, in such a heaving sea, alongside the spar to which the two unfortunate men were clinging for their lives with a skill and nicety

which enabled the rescue to be successfully made, Captain Root and his officers and crew not only proved themselves possessed of the highest skill and discipline as seamen, but showed a courage, coolness and nerve which belong only to the truly brave. Their seamanship and their courage were both brought to a supreme test, and both proved unsurpassed." The owners of the *Mariposa* also commended Captain Root for his exploit, and thus gave precedence to humanity over the danger to which the steamer was necessarily subjected in approaching the sunken *Idaho*.

In a letter to Captain Root, President Mather of the Minnesota Steamship Company, owners of the *Mariposa*, said: "I wish to express to you, and through you to all your brave crew, my sincere appreciation of the unusually skillful seamanship, coolness, nerve and bravery displayed by you all in rescuing the two poor survivors of the *Idaho*, and to say further that notwithstanding the risk thereby involved to the safety of the steamer, your act has the hearty commendation of this company and of myself. In some recognition I wish you to give your first mate and your chief engineer an extra month's salary each, and to all the other members of your crew an extra half-month's salary each, for which draft is inclosed herewith; and as for yourself, will you please call at our office upon your arrival down and receive in person from us a testimonial of our regard and esteem." When, in answer to this letter, Captain Root called at the office of Mr. Coulby, manager of the transportation department of the company, he was presented with a beautiful gold watch.

The *Idaho* was one of the oldest steam vessels on the lakes. She was built in 1863. A few years ago the Western Transit Company, which owned the boat, took her out of commission and she lay idle at Buffalo until a month or so before her loss. She was 220 feet long, with a net tonnage of 906. During the G. A. R. Encampment the *Idaho* was used by the naval veterans as a lodging place.

*Safe to Sail the Lakes.*—Not a single passenger was lost by accident during the

season of navigation on the great lakes for 1897. 68 sailors lost their lives. This is about the average for the past two seasons. The only craft in disaster was the *Idaho*, lost on Lake Erie, when 19 lives were sacrificed. The remainder of the 68 were lost one at a time from accident. Falling into the hold caused the death of a dozen. Forty-six were drowned and three committed suicide. The season was remarkable for the large number of narrow escapes of crews from wrecked vessels, but the life-saving crews everywhere made daring rescues.

*Vessel Earnings in 1897.*—Instead of having to make good a deficit vessel owners found a balance to their credit. It was not large, but under the circumstances a little is as good as a feast. One local owner figures that his property earned at least 5 per cent. on its insurance valuation, or about 10 per cent. on what he considers its actual market value at present, although there is apparently no market for it. Another owner claims that the earnings of vessels of 2,500 tons carrying capacity have been about 3 per cent. on their insurance valuation, or 6 per cent. on a supposititious market value. And this he considers a fair result for one of the most unsatisfactory seasons ever experienced on the lakes. In regard to the steel steamers and towbarges carrying anywhere from 4,500 to 6,000 tons it is learned from outside sources that they have earned about 6 per cent. upon the capital invested in them. While this is not a satisfactory return by any means, it is sufficient to demonstrate their superiority as money makers in ordinary seasons, and serves to explain why only vessels of this description are now being placed under contract at all of the large ship-building plants on the lakes. True, there will always be a good demand for medium-sized carriers, but the presence of these leviathans in a competitive market will tend to keep freight rates down to such a low notch throughout future seasons that they can no longer be looked upon as gilt-edged property. So firmly, in fact, has this belief become fixed in the minds of the most discerning owners that some of them have recently expressed



a willingness to dispose of their holdings at a heavy sacrifice in order that they be enabled to put the proceeds into great carriers such as are now being rapidly introduced.

*Wreck of the Pewabic Found.*—The wreck of the long-lost steamer Pewabic was located after a casual search extending over thirty years. The wreck was found by a wrecking expedition from Milwaukee in the steamer H. A. Root. It lies six miles southeast from Thunder Bay island, Lake Huron, in 27 fathoms of water, and is in the regular course of steamers, on almost an even keel. The upper works are entirely gone, but portions of the bulwarks are standing, and the main deck appears to be intact. The American Wrecking and Salvage Co., of Milwaukee, under a contract with the underwriters, worked for the recovery of the wreck and cargo, consisting largely of copper in barrels, recovering copper to the value of \$7,000. For several years from one to four expeditions had been sent out to locate the Pewabic, and several lives have been lost in the search. There was always a belief that the safe of the steamer contained a large amount of money. The Pewabic was lost by collision with the steamer Meteor in 1865.

*Losses of vessels from 1890 to 1897* are shown in the following table:

	NO. OF VESSELS	CAPACITY	VALUE
1890.....	34	16,306	\$ 757,000
1891.....	52	27,496	564,800
1892.....	57	28,708	1,014,250
1893.....	65	41,625	1,172,200
1894.....	54	31,415	522,750
1895.....	63	48,975	1,290,100
1896.....	35	21,425	386,500
1897.....	35	21,450	372,900

*Other Events of 1897.*—April: Steamer Massena, sunk near Maitland, raised. Schooner I. M. Forest stranded at Pentwater. Schooner C. N. Ryan stranded at Ludington; crew saved with difficulty. Schooner Wollin wrecked off Sheboygan. Schooner Lookout wrecked near Two Rivers. Steamer Florida sunk by collision with the steamer George W. Roby between Middle island and Presque Isle.

Steamer Lewis Shickluna sunk off Long Point by collision with the steamer Tecumseh. Schooner Coral sunk near Death's Door. June: Canadian Pacific car-ferry steamer Southeastern burned at Prescott. Tug Wells sunk by collision with the Monohansett at Ballard's Reef. Schooner Sunshine sunk in the Soo river by collision with the rocks; afterwards raised. Excursion steamer Periwinkle burned at Toledo. July: Steamers Mariposa and Selwyn Eddy collided off Manitou island during a dense fog, causing serious damage to both vessels, the former being cut to the water's edge. Schooner F. M. Smith fatally stranded at South Haven. Tug J. W. Eviston burned at Duluth. August: Schooner Emma Banner capsized in Lake Michigan. September: Schooner Henry A. Kent, iron ore laden, sprung a leak during a gale, and foundered eight miles off Stanard Rock; crew saved with difficulty by towing steamer J. C. Gilchrist. Schooner Alert wrecked at St. Joseph. Steamer C. B. Wallace burned at Toledo, October: Schooner Antelope, coal laden, foundered off Michigan island; crew saved by towing steamer H. W. Sibley. Schooner Ella Stevenson foundered 40 miles off Holland; crew reached shore in lifeboat. Schooner Kate Winslow, with pig iron, broke from towing steamer and foundered near Seul Choix Point. Schooner F. W. Gifford foundered on Lake Michigan. Steamer E. B. Hale foundered in Saginaw bay. Schooner Presto fatally wrecked at Sand Beach. Schooner Nellie Hammond stranded at White Lake Harbor. Tug C. W. Wells burned at Amherstburg. Tug Com. Jack Berry burned at Duluth. November: Schooner Groton foundered at anchor 12 miles west of Port Stanley; crew rescued with difficulty. Steamer Dove burned at Toledo. Steamer Nahant burned at Escanaba. Tug E. G. Ashley burned at Toledo. December: Schooner Joseph Paige wrecked 12 miles west of Whitefish Point. Steamer Rosedale driven ashore on East Charity shoals; abandoned to underwriters. Steamer Egyptian burned on Lake Huron. Schooner J. G. Masten stranded at Two Rivers. Steamer G. W. Morley burned at Chicago. Schooner Mishicott



WRECKING SCENE ON LAKE MICHIGAN.

Propeller Keystone and consort J. G. Masten, ashore on Twin River Point, near Two Rivers, Wis.  
A wrecking tug of Sturgeon Bay released the propeller promptly. The schooner  
slid off into deep water, foundering very quickly.





stranded at South Haven. Tug Fishing Queen foundered in Lake Erie.

1898.

*The Mild Winter of 1897-98.*—Capt. Tony Everett, who is the oldest master sailing out of Chicago in point of years of service, said the *Marine Review* in February, 1898, shipped for the first time from that port in 1848, has been a master since 1856, and he is still at the business. Captain Everett says this winter beats anything in his 50-years' experience on the chain of lakes. "I have been all over 'em, up and down and back again," said Captain Everett, "but I never before saw a winter as open as this one at this time of the year. I never knew the St. Clair river to be open in the latter end of January. Of course there is ice in the lake, lots of it; but the winds keep it off shore and we don't see much of it. But the lake could be sailed all winter if we had the insurance. I remember one very bad winter, that of 1862, when a fleet of schooners was frozen in for months in Lake Erie. The Badger State was one of them, and the crew had to live on oats and corn all winter. They were loaded with grain, and when the provisions ran out they had to tackle the cargo. That was a bad winter. The ice was so thick they couldn't move, and it was not solid all the way in, so they couldn't go ashore if they wanted to; so they had to stay aboard and eat oats until the ice broke up.

"I have seen the 36 miles of St. Clair river open until Christmas, but it usually freezes up and sticks that way about that time. This winter we have wonderful fine weather."

*From the Lakes to the Atlantic.*—One of the most notable events of the season was the chartering of about forty of the old-time lake vessels for service on the seaboard. The Atlantic Transportation Company, of New York, was the principal charterer of the craft. The vessels, it was stated, were intended largely for the coastwise coal trade; especially from Newport News. The Atlantic Transportation Company had said that when it wanted tonnage, additional to that which it controlled, the carrying rate

was forced sharply upward, and it was to prevent this increased cost of transportation that the large chartering of lake vessels was made. The chartering began early in September, and before the close of the season most of the vessels had reached the seaboard, though a few were detained by insufficient water in the St. Lawrence canals. The *Marine Review*, in its issue of September 22, presented this list of lake vessels chartered to the Atlantic Transportation Company:

	CAPACITY NET TONS	INSURANCE VALUATION
STEAMERS—		
Aragon.....	2,500	\$100,000
Lindsay.....	1,700	68,000
Katahdin.....	2,200	100,000
Murphy, S. J.....	2,200	100,000
BARGES—		
Foster, Chas.....	2,000	25,000
Georger, F. A.....	1,700	18,000
Alverson, H. D.....	1,500	18,000
Moonlight.....	1,500	17,000
Crosthwaite, W. S.....	1,400	14,000
Sheldon, T. P.....	1,300	14,000
Bacon, M. S.....	1,300	18,000
Watson, S. L.....	1,200	12,000
Foster, S. H.....	1,300	16,000
Verona.....	1,400	15,000
Camden.....	1,400	15,000
Halloran.....	1,500	16,000
Massasoit.....	1,200	14,000
Sage, H. W.....	1,500	20,000
Redwing.....	1,500	16,000
San Diego.....	1,500	16,000
Iron State.....	2,000	30,000
Iron City.....	1,200	22,000
Watson, S. V. R.....	1,000	10,000
Parker, Thos. L.....	1,200	20,000
Wadena.....	2,100	35,000
Becker, W. D.....	2,100	48,000
Ash, Annie M.....	2,500	46,000
Checotah.....	1,400	16,000
Wallace, David.....	1,800	27,000
Wall, Charles.....	1,200	9,000
O'Neil, John.....	1,200	10,000
Brunette.....	1,400	12,000
Shawnee.....	1,200	10,000
Hawgood, H. A.....	2,300	42,500
Ewen, F. D.....	1,900	32,500
Fitzpatrick, J. C.....	2,400	55,000
Metacomet.....	1,500	18,000
Rutter, J. H.....	1,800	25,000
McGregor, Wm.....	1,500	17,000
Brown, H. H.....	1,500	17,000
Porter.....	1,500	16,000
Helvetia.....	1,600	18,000
Page, M. W.....	1,400	16,000
Total.....	69,500	\$1,184,500

The carrying capacity of this fleet is estimated at more than 1,250,000 tons for the season, and the withdrawal had an immediate strengthening effect upon freights that were affected by this tonnage.

*Largest Vessels on the Lakes.*—There was launched at the Wheeler shipyard at West Bay City this season the largest freighter on the Great Lakes, the steel propeller Samuel F. B. Morse, owned by the Bessemer Steamship Company. She started for Duluth for her first cargo in August. The Morse is 476 feet over all, 456 feet keel, 50 feet beam and 29 feet depth. Engines are of the quadruple expansion type, with cylinders of  $26\frac{1}{2}$ , 37,  $54\frac{1}{2}$  and 89 inches diameter, and a common stroke of 42 inches. There are four Scotch boilers, each of 13 feet 4 inches diameter and 11 feet 6 inches length, and allowed 200 pounds working pressure. The vessel has fourteen hatches, two smoke stacks and two steel masts. Probably the most distinctive characteristic of the vessel is the exceptionally heavy construction throughout. Her displacement on a draught of 17 feet will be 10,500 tons. She was built to move 6,000 gross tons on the present Lake Superior draught, and she had done that. She was not built with a view to putting into her every ton of cargo that could possibly be moved in a hull of her dimensions. She was intended to tow a steel barge, the largest on the lakes, and probably two such barges, and the indications are that she will eventually tow two big barges at a rapid rate. On her second trip to Lake Superior with a towing wheel she made  $14\frac{1}{2}$  miles for a time, going up light, and when returning with ore she made  $13\frac{1}{2}$  miles all the way down. The chief engineer of the line was of the opinion, he said, that with another wheel suited to fast running the Morse would attain a speed of 17 miles.

The Bessemer Steamship Company has contracted for a propeller to duplicate the Morse, also for a barge to be 465 feet in length, or 10 feet longer than the Roebbling, the present largest barge.

*Heavy Marine Losses.*—An unusually large number of losses occurred on the lakes during the season of 1898. The loss to the

underwriters is estimated at \$2,600,000, and the season is said to have been the most disastrous in the history of the lakes. The number of boats which passed out of existence was 58, with an aggregate tonnage of 29,194 tons. Total and partial losses amounted to 569, and the causes assigned were as follows: Ashore, 123; aground in protected channels, 126; fire, 40; collisions, 90; ice, 16; storm-beaten, 96; foundered, 8; miscellaneous causes, 116.

*Severe Storms.*—There were three severe storms late in the season. The first began October 25 and continued 36 hours. The second occurred November 9, and the third November 18.

*Loss of the Doty.*—The most disastrous event of the season, in loss of life, was the foundering of the steamer L. R. Doty, on Lake Michigan, with her entire crew of 17. The Doty left Chicago, Monday, October 24, with the Olive Jeanette in tow, both loaded with corn, for Midland, Georgian Bay. They encountered a furious gale the following day. The towline parted, and the manner of her loss remains unknown. Indications were that she drifted a considerable distance before she went down in mid-lake. Her wreckage was picked up 25 miles off Kenosha. The Jeanette was sighted on the 27th and towed to Chicago, in a crippled condition. The Doty was a stanch wooden propeller, built at West Bay City, in 1893. She was in command of Capt. Christopher Smith. The crew of the Jeanette could throw no light on the fate of the Doty. The vessels were struck by the northeast gale on Monday, when below Milwaukee. Tuesday afternoon the steamer parted from her consort.

Forecaster Cox, of the Chicago weather bureau, says the storm was not at all remarkable for the violence or the continuance of the wind, and yet it was remarkable for the damage it did on sea and land. He accounts for this by the fact that the storm center moved so rapidly across the lake, so that there was not only the gyratory force of the cyclone but a rectilinear motion to the northeast. It was this combination of forces, he says, which lashed Lake Michigan into fury and produced such

devastating effects on the lake and on the shore. Chicago, he says, had a wind, August 16, that blew seventy-two miles an hour. Tuesday, October 25, the greatest velocity was forty-eight miles, and that only from 7:50 to 8:15 P. M.

*Loss of the Thol and Other Vessels.*—During a fierce gale November 10, the schooner S. Thol, laden with Christmas trees for Chicago went down off Glencoe with all on board, a crew of five men. During the same storm the schooner Iron Cliff sank off Chicago harbor. Her crew of seven men were with great difficulty rescued by the Chicago life-saving crew. The schooner Sophia J. Luff was waterlogged off Gross Point, and the schooner Lena M. Neilson went ashore at Lakeside, Mich. The schooner Fossett was stranded at Sand Beach, Lake Huron, and the schooner Minnehaha was broken up at Sheboygan.

*Wreck of the St. Peter.*—The Canadian schooner St. Peter, bound from Oswego to Toledo with coal, sank about five miles northwest of Sodus, on Lake Ontario, October 27. She had shown signs of distress and the tug Proctor started to her assistance. When a mile away the crew of the tug saw the distressed vessel sink. The crew of nine all perished except Captain John Griffin, who was picked up in an unconscious condition.

*Foundering of the Churchill.*—The schooner Churchill, laden with ore, foundered off Waukegan October 13 during a fierce gale. She was in tow of the propeller Majestic. The lines parted, and the crew of the schooner had just taken to the yawl when the vessel went down. Captain Cain sank with the ship and another seaman was lost. The Majestic picked up the remaining members of the crew, five in number.

*Good Year for Lake Craft.*—A striking feature of the year was the enormous volume of traffic and the moderate margin of profits, considering the heavy business. It is estimated that average earnings of 4 to 5 per cent. were paid. A few vessels faced an actual loss. On the largest and best managed there was a net profit of about 10 per cent. During the earlier part of the

season carrying charges reached the lowest point in the history of the lake marine. For a long stretch corn has been carried from Chicago to Buffalo at three-quarters of a cent, and even touched five-eighths. Ships went begging for cargoes, and yet nearly all were kept in service. Finally, along in August, a boom began, which continued until the middle of October, when the high-water mark in all important lines of commerce was reached. Corn went to 3½ cents, iron ore to \$1, and coal to 50 cents. Vessels were then making big money every trip, but November was not old before the boom collapsed, and vessel men went hunting for cargoes again. At the close of the season vessel men were more hopeful of profitable business for the next year than they have been at any close of navigation for three years past. They base their hopes upon the enormous sales of rails and other steel products for 1899 delivery. The consumption of ore for 1899, it is almost assured, will reach the greatest proportions ever known.

*Large Cargoes.*—In 1898 the propeller Superior City, loaded at South Chicago a cargo of 266,500 bushels of corn, weighing 7,463 net tons, on a draft of 18 feet 2 inches. The same vessel carried from Escanaba to South Chicago 6,823 gross tons, or 7,642 net tons, of iron ore. On 16 feet of water the schooner Polynesia carried from Cleveland to Duluth 5,654 net tons of bituminous coal. The propeller Siemens, with two barges in tow, carried 17,000 tons of ore to Lake Erie. The Maruba and her tow, the barges Martha and Constitution, carried 15,000 tons. The lake carriers expect that soon a propeller and her tow will be able to transport in one trip 20,000 tons of ore.

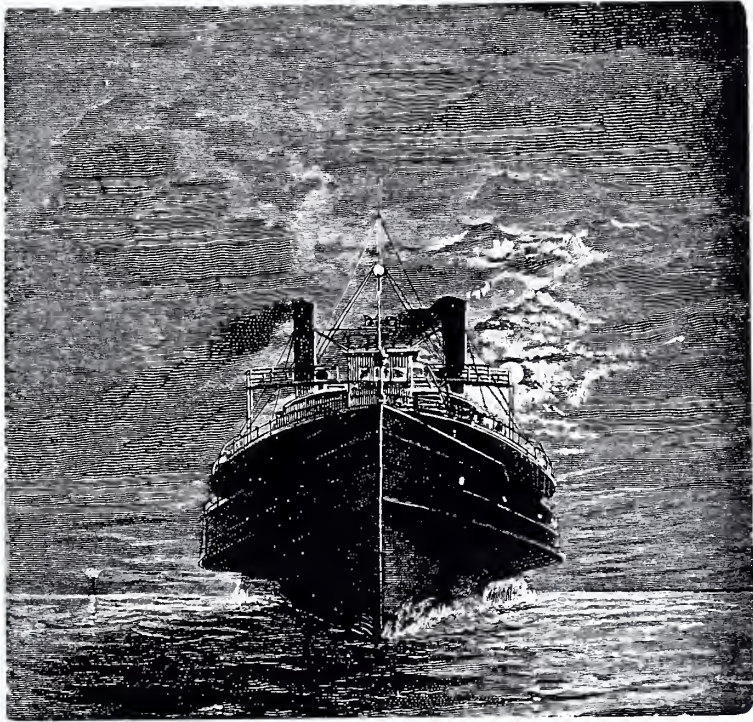
*Caught in the Ice.*—The close of the season of 1898 was made memorable by the imprisonment of many vessels in the ice at the head of Lake Erie about December 10. A fleet of 35 boats was ice-bound, but by the aid of ferries and tugs from Detroit, a shifting of the wind and warmer weather the vessels gradually got away.

*Other Events of 1898.*—The iron ore shipments by lake for 1898 were 13,650,788



gross tons, the largest traffic ever known. Cargoes of 7,000 tons were a feature of the year, and account for the low freights. The opening of the Canada-Atlantic line from Chicago and Duluth to Georgian Bay dampens the hopes of an extensive grain trade to Montreal when the St. Lawrence canals are completed in 1899. All-rail routes made a contest for the grain trade to the seaboard, and were not altogether unsuccessful. There were rafted to the Saginaw river this season from the Georgian Bay 154,997,171 feet of pine logs. In 1897 the quantity received at Saginaw was 147,280,000 feet of saw logs. The number of vessels totally lost was greater than for many years past. Receipts of grain and flour at Buffalo surpassed those of any previous year. The Canadian authorities expect to have the enlargement of the Galops, Morrisburg, Farrans Point, Cornwall and Soulanges canals completed by about midsummer 1899, so as to be able to pass vessels of 2,000 tons through from the lakes to the sea. Two United States revenue cutters, the Gresham and the Algonquin, started for the seaboard in June to join the auxiliary naval fleet. The Algonquin was built at Cleveland in 1898, the Gresham in 1897. The latter was cut in two and one half sank at Ogdensburg. The vitality of the wooden vessel ship-building industry was exemplified by the building of four large wooden freighters at the Davidson yards at West Bay City during the winter of 1897-98 and the spring of 1898. These vessels, however, are not in active demand. April: Steamer *Servia*, loaded with corn, from Duluth for Kingston, burned about 30 miles west of Whitefish Point, Lake Superior; for 9 hours the crew ineffectually fought the fire; she was then abandoned and sank. Steamer *Maine* burned at Buffalo; raised. Schooner *Northwest* sunk by ice in Straits. Propeller *J. H. Outhwaite* and schooner *H. A. Barr* ashore on False Presque Isle; afterwards released. May: Tug *Agnes Arnold* burned in Green bay. June: The Canadian steamer *Tecumseh* struck on Ripley's rock, at Marquette, and sank. Tug *Record* sunk at Duluth, drowning three of the crew; she was afterwards raised. Steamer *Sakie Shepherd* burned at

St. Clair. Barge *American* burned at St. Clair. July: Schooner *S. B. Paige* ashore, Green bay; total loss. August: Schooner *Dan Hayes* sunk, 10 miles north of Milwaukee. Steamer *Superior* went to pieces on Gull island, Lake Michigan; she was loaded with ore from Escanaba for Toledo. Tug *R. F. Goodman* burned, Lake Superior. Schooner *F. A. Fitch* ashore and lost, Lake Michigan. September: The tug *Ira O. Smith* burned and sank, near Lake View crib, Chicago. Propeller *Maud Preston* burned, near Toledo. Schooner *J. H. Mead* ashore, Keweenaw Point. Schooner *Mediator* ashore, Keweenaw Point. Propeller *Colorado* ashore, Keweenaw Point. Schooner *R. Winslow* foundered in Straits. Steamer *Tourist* burned, St. Joseph. Schooner *Forrester* ashore and lost at Sanilac. Steamer *Wenona* ashore and lost at Portage. Schooner *Keepsake* foundered, Lake Erie. Canadian schooner *Jonas* sunk by collision, Georgian Bay. Steamer *Keystone* burned, Lake Michigan. Steamer *Queen of the Lakes* burned, South Manitou. Schooner *Southwest* ashore and lost, Lake Superior. Schooner *Monitor* sunk in St. Mary's river. Steamer *Toledo* wrecked at Portage. October: Schooner *Barbarian* abandoned off Milwaukee. Schooner *A. J. Rogers* ashore and lost on Lake Michigan. Canadian schooner *Augusta* sunk on Lake Ontario with crew of 7 men. Tug *Leo* wrecked at Milwaukee. The Canadian tug *Walker* sunk near Nicholson's island, Lake Ontario, and her barges, the *Kildonan* and *Hector*, coal laden, were beached above Wellington. Schooner *Ed. Blake* burned on Lake Huron. Schooner *L. B. Shephard*, lumber-laden, capsized in Lake Michigan. Tug *Rebel* foundered on Lake Superior. Schooner *C. P. Minch* ashore at Pier Cove, Georgian Bay. Propeller *H. A. Tuttle* total loss, Michigan City. Propeller *Republic* ashore near Alpena. Schooner *Aloha* abandoned off Chicago. Schooner *D. L. Filer* abandoned off Racine. Steamer *E. F. Gould* lost near Oscoda. Schooner *George Steely* broken up near Oscoda. Propeller *Henry Chisholm* wrecked, Lake Superior. Schooner *Bavaria* ashore and lost, Georgian Bay.



NIGHT SCENE ON LAKE ERIE.





Schooner A. Dall ashore and lost, Lake Michigan. November: Passenger steamer Pacific burned at Collingwood, Ontario. Schooner Aberdeen beached at Grand Haven. Schooner D. S. Austin wrecked near Ludington. Canadian steamer Northern Bell destroyed by fire on Lake Huron. Propeller Lloyd S. Porter sunk below Quebec, while on her way to the sea. Schooner Iron Cliff wrecked off Chicago. Schooner Minnehaha lost at Sheboygan. Propeller Tampa a total loss at Beaver bay, Lake Superior. Propeller Arthur Orr abandoned, Lake Superior. Schooner N. C. West wrecked by collision, St. Clair river. Schooner L. M. Neilson ashore and wrecked, Lake Michigan. Barge 104 sunk on Lake Erie. Schooner C. Harrison ashore, Sturgeon bay. Steamer Corona burned at Tonawanda. Steamer H. W. Sibley wrecked on

Lake Erie. Schooner Maria Anetta ashore on Lake Ontario. Steamer St. Lawrence ashore, Point Betsey. Steamer Harlem ashore on Isle Royale. December: Steamer Aurora, with wheat cargo, burned to water's edge while plowing through Lake Erie ice. Tug George B. McClellan burned, Michigan City. Tug Swain burned St. Mary's river. This year witnessed the arrival from Denmark, on the Great Lakes of the sailing yacht Dove [Duen], owned by Countess Schimmelmann. The Countess fearlessly crossed the Atlantic in her little vessel in order to extend the philanthropic work (toward which she has humanely consecrated her life and fortune) among all classes, chiefly, however, among the sailors and others employed about the lakes. The Dove arrived in Chicago in the fall of 1898, and is wintering there.



## LAKE VESSELS.

### CHAPTER XLII.

#### LIST OF LAKE VESSELS.

##### PAST AND PRESENT.

THE compilation of a complete list of all vessels that have sailed the Great Lakes is, perhaps, impossible, for many early records have been destroyed, and those remaining are sometimes incomplete. The following directory has been prepared with great care, and no available source of information that might add to the accuracy or to the number has been neglected. Few if any prominent vessels on the lakes, it is believed, have been omitted, and the list is by far the most complete that has ever been compiled. It contains with comparatively few exceptions the names of all lake craft from the earliest historical times to the present.

The abbreviations used are usually self

explanatory. Those most commonly employed are as follows:

- b., for built.
- bge., barge.
- c., composite.
- Can., Canadian.
- col., collision.
- com., commission.
- cfy., car ferry.
- g. t., gross tons.
- Hur., Huron.
- l., lake.
- Mich., Michigan.

\* n.t., net tonnage; or sometimes, when applied to Canadian vessels, new tonnage.  
prop., propellor.  
r., river.

rev. cut., revenue cutter.  
 straits, Straits of Mackinac.  
 Sup., Superior.  
 stmr., steamer.  
 sty., steamyacht.  
 stcb., steam canal boat.  
 stpd., steam pile driver.  
 stl., steam lighter.  
 std., steam dredge.  
 schr., sail vessels or barges.  
 slp., sail sloop.  
 sly., sloop yacht.  
 U. S. Gov., United States Government.  
 v., vessel.  
 '98, 1898, etc..

By steamer is usually meant side-wheel steamer, but it includes also many propellers among the Canadian vessels and sometimes American propellers, old vessel lists not always maintaining the distinction between side-wheel steamers and propellers:

Aaron, Can. schr., 144 g. t., b. '81, Montreal, in com.  
 Abbell, C. L., schr., wrecked L. Mich., '61.  
 Abbey, J. P., Can. scow, 120 g. t., b. '63, Port Robinson, in com.  
 Abbey, Olivia, Can. scow, '90 g. t., b. '84, Port Robinson, in com.  
 Abbie, schr., 87 g. t., b. '86, Ludington, in com.  
 Abbott, H. B., tug, 56 g. t., b. '89, Buffalo, in com.  
 Abbs, James, Can. schr., 15 g. t., b. '69, Port Credit, in com.  
 Abby, schr., wrecked near Cleveland, '51.  
 A. B. C. F. M., schr., 143 g. t., formerly J. & A. Stronach, b. '54, Milwaukee, in com.  
 Abell, Geo. W., slp., 12 t., b. Buffalo, wrecked Port Burwell, '71.  
 Abeona, Can. sty., 46 g. t., b. '89, Toronto, in com.  
 Abercorn, prop., 260 g. t., b. '74, Marine City, in com.  
 Aberdeen, schr., 1,046 g. t., b. '92, West Bay City, beached Grand Haven, '98.  
 Aberdeen, Can. prop., 181 n. t., b. '94, Picton, in com.  
 Aberdeen, Can. stmr., 674 g. t., b. '94, Paisley, in com.  
 Aberdeen, Can. tug, 13 g. t., b. '94, Westport, in com.  
 Aberdeen, Can. s. tug, 121 n. t., b. '95, Sorel, in com.  
 Abert, Col., U. S. i. survey stmr., b. Buffalo, '43.  
 Abiah, brig, in com., '51.  
 Abigail, schr., b. '49, Black River, O.  
 Abino, Can. prop., 8 g. t., b. '94, Fort Erie, in com.  
 Abrecht, H. C., schr., 237 t., b. Manitowoc, '70.  
 Abyssinia, schr., 2,037 g. t., b. '96, West Bay City, in com.  
 Abyssinia, sty., 13 g. t., b. '93, in com.  
 Abyssinian, Can. stmr., 450 g. t., b. '65, Montreal.  
 Acacia, Can. schr., 227 n. t., b. '73, Smith's Falls, in com.  
 Acacia, Can. cfy., 107 n. t., b. '93, Hamilton, in com.  
 Acadia, schr., b. Three Mile bay, L. Ont., '47.  
 Acadia, Can. prop., 806 g. t., b. '67, Hamilton, lost L. Sup., '96.  
 Acadia, Can. bge., 370 n. t., b. '73, Quebec, in com.  
 Acadia, Can. prop., 520 g. t., b. '80, Chester, Pa., in com.  
 Accommodation, Can. stmr., b. Montreal, '09. First steamer on waters connected with the Great Lakes.

Ackley, H. C., bge., lost off Grand Haven, '78.  
 Ackley, H. C., stmr., 1,187 t., b. '81, foundered L. Mich., '83, 6 lives lost.  
 Acme, prop., 762 t., sunk near Dunkirk, '67.  
 Acme, prop., 320 g. t., b. '74, New Jerusalem, O., foundered near Black River, '93.  
 Acme, slp., 45 g. t., b. '89, Buffalo, passed out, '95.  
 Acme, stcb., 128 g. t., b. '91, Lockport, in com.  
 Acme, tug, 58 g. t., b. '93, Buffalo, in com.  
 Acontias, schr., 251 t., b. Oswego, '56, wrecked L. Hur., '87.  
 Acorn, schr., 110 t., b. Charleston, O., '42.  
 Acorn, schr., sunk L. Erie, '49.  
 Acorn, schr., sunk Sand Beach, '76.  
 Active, Can. schr., 32 g. t., b. '64, Port Dover, in com.  
 Active, schr., 50 g. t., b. '69, Sheboygan, in com.  
 Active, tug, wrecked '70.  
 Active, schr., 335 g. t., b. '71, Trenton, Mich., in com.  
 Active, Can. tug, 284 n. t., b. '73, Montreal, in com.  
 Active, Can. bge., 64 g. t., b. '87, Wallaceburg, in com.  
 Active, tug, 13 g. t., b. '94, Port Clinton, O., in com.  
 Activity, Can. prop., 24 n. t., b. Levis, in com.  
 Actor, schr., 21 g. t., b. '90, Manitowoc, in com.  
 Ada, schr., lost L. Huron., '59.  
 Ada, schr., lost at sea, '61.  
 Ada, Can. tug, 45 n. t., b. '86, Montreal, in com.  
 Ada, tug, 23 g. t., b. '87, Silver Creek, in com.  
 Ada, schr., 15 t. b. '88, South Arm, Mich., wrecked '94.  
 Ada, prop., 161 g. t., later the Peter Smith.  
 Ada Alice, Can. prop., 41 n. t., b. '78, Pt. Dalhousie, in com.  
 Ada E., schr., 18 g. t., b. '87, Fairport, O., passed out, '97.  
 Adain, schr., 62 g. t., b. '64, Trenton, Mich., passed out, '97.  
 Adair, schr., 82 t. b. Buffalo, '47.  
 Adair, scow, sunk Point Pelee, '70.  
 Adair, W. A., schr., 61 t., b. Black River, '45, capsized L. Erie, '47.  
 Adams, brig, 100 t., b. Detroit, 1802, by U. S. Gov., surrendered by Gen. Hull in 1812 to British, and called Detroit, captured by Lieut. Elliott 1812, and stranded and burned at Black Rock.  
 Adams, A. C., tug, 41 g. t., b. '81, Buffalo, in com.  
 Adams, E. S., bark, 407 t., sailed Liverpool, '58, sunk by col., L. Erie, '63, 1 life lost.  
 Adams, H. H., slp., 90 g. t., b. '85, Champlain, in com.  
 Adams, James, tug, 40 g. t., b. '82, Buffalo.  
 Adams, John, b. 1799.  
 Adams, John Q., schr., ashore Buffalo, '25, capsized off Grand river, '32, struck by lightning, '33, 3 lives lost.  
 Adams, Geo. W., schr., 1,443 g. t., b. '75, Toledo, passed out, '96.  
 Adams, Tom, prop., 1,181 g. t., b. '88, West Bay City, in com.  
 Addie, schr., wrecked South Haven, '85.  
 Addie, schr., 30 g. t., b. '72, Benton Harbor, wrecked Frankfort, '97.  
 Adelaide, stmr., 230 t., b. Chippewa, Ont., '30, afterwards the Eclipse, changed in '37 to Champlain, wrecked '47, L. Mich.  
 Adelaide, schr., 150 t., b. Ashtabula, '37.  
 Adelaide, stmr., on river at Saugatuck, '56 to '69.  
 Adele, tug, 9 g. t., b. '89, Mt. Clemens, in com.  
 Adele, sty., 36 g. t., b. '90, Milwaukee, in com.  
 Adelia, schr., foundered L. Ont., '54, 5 lives lost.  
 Adell, schr., 20 t., total loss, '69.  
 Adirondack, schr., 389 t., b. Clayton, '62, lost '93, L. Mich.  
 Adirondack, schr., 60 t., b. '66, Port Douglass, N. Y., in com.

- Administrator, Can. stmr., 400 t., on lakes, '42.  
 Admiral, Can. schr., 400 g. t., b. '43, Niagara.  
 Admiral, Can. stmr., seized Rochester, '43, for smuggling.  
 Admiral, stmr., burned Toronto, '53.  
 Admiral, schr., 167 t., wrecked near Toronto, '67.  
 Admiral, schr., 48 t., b. Port Sarnia, '70.  
 Admiral, Can. stmr., 9 g. t., b. '80, Petersville, in com.  
 Admiral, tug, boiler exploded, Chicago, '84, all hands lost.  
 Adrelexa, Can. prop., 15 g. t., b. '86, Port Robinson, in com.  
 Adriatic, bark, b. Clayton, sunk by col., L. Hur., '63.  
 Adriatic, schr., 129 g. t., b. '57, Ashtabula, in com.  
 Adriatic, schr., returned to lakes '61 after long ocean trade.  
 Adriatic, bge., sank with all hands off Long Point, '72.  
 Adriatic, Can. schr., 915 g. t., b. '89, West Bay City, in com.  
 Adrienne, tug, 63 g. t., b. '84, South Haven, in com.  
 Advance, Can. tug, 41 g. t., b. '62, Bedford Mills, in com.  
 Advance, Can. schr., 400 g. t., b. '62, Port Dalhousie.  
 Advance, schr., 366 g. t., b. '71, Trenton, in com.  
 Advance, bark, 397 t., b. St Catharines.  
 Advance, schr., abandoned L. Ont., '70.  
 Advance, scow, sunk by col. '71, Put-in-Bay.  
 Advance, tug, lost, '72.  
 Advance, schr., 179 t., lost with all hands off Sheboygan, '85.  
 Advance, Can. prop., 72 g. t., b. '86, Windsor, in com.  
 Adventure, English sloop, 34 t., b. Detroit, 1776.  
 Adventure, Can. prop. 158 t., b. L. Ont., '43.  
 Adventure, Can. schr., foundered off Grand river, Can., '48, 3 lives lost.  
 Adventure, scow, lost, '69.  
 Adventure, schr., 148 g. t., b. '75, Detroit, passed out, '97.  
 Adventurer, prop., 16 g. t., b. '95, Two Harbors, in com.  
 Aeolus, sty., 15 g. t., formerly Floss, b. '88, City Island, N. Y., in com.  
 Aerial, schr., ashore Collingwood, '69.  
 Aetna, schr., ashore L. Mich., '45.  
 Aetna, schr. abandoned Pt. Abino, '56.  
 Aetna, schr., foundered L. Mich., '78.  
 Africa, schr., wrecked L. Sup., '70.  
 Africa, Can. stmr., 404 t., b. Owen Sound, '76, burned Owen Sound, '86.  
 Africa, Can. prop., 482 t., b. Kingston, '87, foundered L. Hur., '95, 13 lives lost.  
 Agate, schr., passed out.  
 Aggie, Can. sty., 13 g. t., b. '87, Oakville, in com.  
 Agnes, schr., 101 g. t., b. '74, Sheboygan, in com.  
 Agnes, Can. tug, 35 n. t., b. '84, Meaford, in com.  
 Agnes, schr., 404 g. t., b. '80, Oscoda, in com.  
 Agnes Ann, Can. schr., 96 t., b. Goderich, passed out.  
 Agnes, C., tug, 15 g. t., b. '87, Green Bay, in com.  
 Aid, Can. bge., 367 n. t., b. '85, Montreal, in com.  
 Aid, Can. stmr., 35 n. t., b. '86, Ottawa, in com.  
 Aikens, W. J., Can. tug, 57 n. t., b. '74, Buffalo, in com.  
 Aileen, Can. sail yt., 25 g. t., b. '82, Toronto, in com.  
 Ainslie, Adam, Can. tug, 84 n. t., b. '92, Owen Sound, formerly tug R. S. King, in com.  
 Ainsworth, schr., 110 t., b. Cape Vincent.  
 Ainsworth, schr., wrecked Oswego, '46.  
 Ajax, stmr., burned Saginaw Bay, '72.  
 Ajax, schr., 39 g. t., b. '86, Ogdensburg, passed out, '95.  
 Akron, prop., ashore Long Point, '61.  
 Alabama, schr., b. '36, total loss, Fairport, '43.  
 Alabama, stmr., 600 t., b. Detroit, '48, sunk near Buffalo, '48.  
 Alabama, stmr., 1,200 t., b. Sandusky, '48.  
 Alarm, Can. sail yt., 23 g. t., b. '74, Goderich, in com.  
 Alaska, prop., s., 1,288 g. t., b. '71, Buffalo, in com.  
 Alaska, prop., 340 g. t., b. '78, Detroit, in com.  
 Alaska, Can. prop., 53 n. t., b. '84, Buffalo, in com.  
 Alaska, stmr. yt., 13 g. t., b. '93, Chicago, passed out, '95.  
 Albani, Can. sty., 75 n. t., b. '93, Sorel, in com.  
 Albania, sty., 14 g. t., b. '93, Chicago, in com.  
 Albans, stmr., in com. about '82.  
 Albany, schr., wrecked near Mackinaw, '43.  
 Albany, schr., 148 t., b. Milan, '45.  
 Albany, stmr., 669 t., b. Detroit, '46, wrecked at Presque Isle, L. Hur., '43.  
 Albany, schr., 283 g. t., b. '72, Trenton, in com.  
 Albany, i. prop., 1,917 g. t., b. '84, Wyandotte, sunk by col., L. Hur., '93, 24 lives lost.  
 Albany, tug, 19 g. t., b. '90, Buffalo, in com.  
 Albatross, schr., 235 t., b. Ohio City, '47.  
 Albatross, schr., 152 t., b. Oakville, '67.  
 Albatross, Can. schr., 370 n. t., b. '71, Port Dalhousie, in com., formerly barge.  
 Albatross, tug, 29 g. t., b. '76, Chicago, passed out, '94.  
 Albemarle, schr., 270 t., lost in Straits, '67.  
 Albemarle, schr., b. Buffalo, '69.  
 Alberta, Can. bge., 378 n. t., b. '76, Quebec, in com.  
 Alberta, Can. prop., 2,105 n. t., b. '83, Glasgow, in com.  
 Alberta, prop., 89 g. t., b. '85, Cape Vincent, in com.  
 Alberta, slp., 46 g. t., b. '85, Cape Vincent, passed out, '91.  
 Alberta, Can. stmr., 70 n. t., b. '88, Deseronto, in com.  
 Albicore, Can. schr., 337 n. t., b. '72, Port Dalhousie, in com.  
 Albina, Can. bge., 187 n. t., b. '87, Sorel, in com.  
 Albion, Can. schr., 200 g. t., b. '40, Brockville.  
 Albion, stmr., 132 t., b. Maumee City, '48, broken up, '65.  
 Albion, stmr., 132 t., b. Detroit, '54.  
 Albion, schr., foundered L. Erie, '58, 8 lives lost.  
 Albion, stmr., sunk Sandwich Point, '61.  
 Albion, Can. stmr., 380 t., b. '63, wrecked L. Hur., '87.  
 Albion, schr., 34 g. t., b. '68, Pentwater, passed out, '91.  
 Albion, Can. schr., 148 g. t., b. '88, Rockland, in com.  
 Albion, schr., 5 g. t., b. '95, Saugatuck, passed out '96.  
 Alcedes, yt., passed out.  
 Alciope, Can. stmr., 450 g. t., b. '28, Niagara.  
 Alcona, prop., 990 g. t., b. '78, Gibraltar, Mich, in com.  
 Alcyone, sty., 40 g. t., b. '90, Detroit, in com.  
 Alderson, Ivy, Can. tug, 25 n. t., b. '85, Port Dover, in com.  
 Alderson, Wm., stmr., burned near Port Dover, '91.  
 Alderson, W. M., Can. prop., now the A. J. Tymon.  
 Aldrich, B. W., tug, burned Ludington, '73.  
 Aldrich, B. W., tug, 49 g. t., b. '68, Milwaukee, in com.  
 Aldrich, Wm., schr., 191 g. t., b. '56, Two Rivers, in com.  
 Aleck, scow, 70 t., total loss, '69.  
 Alert, schr., ashore Buffalo, '33.  
 Alert, brig, 126 t., b. Charleston, O., '42.  
 Alert, U. S. stmr., 133 t., b. Buffalo, '44.  
 Alert, schr., 360 g. t., b. '71, Trenton, in com.  
 Alert, tug, 23 g. t., b. '74, Chicago, in com.  
 Alert, tug, burned Milwaukee, '83.  
 Alert, schr., 17 g. t., b. '79, South Haven, wrecked L. Mich., '97.  
 Alert, Can. tug, 54 n. t., b. '86, Pt. Robinson, in com.  
 Alert, Can. prop., 49 n. t., b. '86, Morrisburg, in com.  
 Alert, sty., 13 g. t., b. '89, Clayton, N. Y., in com.  
 Alert, sty., 99 g. t., b. '96, Buffalo, in com.  
 Alexander, bark, b. '57, condemned Chicago, '84.



- Alexander, Can. schr., 351 g. t., b. '57, Port Dalhousie, in com.
- Alexander, stmr., 1,116 g. t., b. '62, in com.
- Alexander, stmr., burned L. Ont., '64.
- Alexandria, Can. stmr., 350 n. t., b. '83, Montreal, in com.
- Alfred, Can. bge., 120 g. t., b. '70, Kingston, in com.
- Algeria, prop., 13 g. t., b. '93, Chicago, passed out, '95.
- Algeria, schr., 2,038 g. t., b. '96, West Bay City, in com.
- Algerian, Can. stmr., 456 n. t., formerly Kingston, b. '55, Montreal, in com.
- Algerian, Can. stmr., sunk Split Rock, '75, several lives lost.
- Algerine, schr., sunk Port Colborne, '65, raised.
- Algoma, Can. stmr., originally City of Toronto, then Racine, lost '85, 38 lives lost.
- Algomah, stmr., 100 t., b. St. Joseph r., '45.
- Algomah, brig, 335 t., b. '45, Cape Vincent, sunk Milwaukee, '56.
- Algomah, schr., wrecked Racine, '48.
- Algomah, prop., 486 g. t., b. '81, Detroit, in com.
- Algona, prop., 92 g. t., b. '80, Buffalo, in com.
- Algonquin, schr., 70 t., b. '39, Black River, O., added L. Sup. fleet, '45, went into decay, Superior.
- Algonquin, Can. prop., 1,907 n. t., b. '88, Glasgow, in com.
- Algonquin, U. S. rev. cut., b. Cleveland, '98, transferred to seaboard and renamed Acamac.
- Alhambra, stmr., 1,115 g. t., b. '62, in com.
- Aliber, John A., tug, 32 g. t., b. '97, Saugatuck, in com.
- Alice, Can. schr., 163 g. t., b. '74, Ottawa, in com.
- Alice, bark, damaged '64 by col.
- Alice, schr., 8 g. t., b. '79, Sand Beach, passed out '97.
- Alice, schr., 307 g. t., b. '81, Manitowoc, in com.
- Alice, tug, 40 g. t., b. '91, Grand Haven, in com.
- Alice, Can. s. tug, 80 n. t., b. '94, Sorel, in com.
- Alice C., slp., 20 g. t., b. '90, Clayton, passed out, '95.
- Alice Ethel, Can. prop., 72 g. t., b. '89, Lindsay, in com.
- Alida, tug, passed out.
- Allanwick, schr., b. Cape Vincent, before '53.
- Allegan, schr., 100 t., b. Chaumont, N. Y., '35, wrecked L. Ont., '56.
- Alleghany, prop., 402 t., b. '56, Milwaukee, wrecked L. Mich., '96.
- Alleghany, schr., 663 g. t., b. '73, Erie, in com.
- Allegheny, brig, 267 t., sunk by collision, L. Erie, '55.
- Allen, schr., 153 t., b. '62, burned Muskegon, '83.
- Allen, tug, burned Toledo, '70.
- Allen, Ada, prop., burned Amherstburg, '87.
- Allen, Alfred, schr., wrecked Mohawk Reef, '69.
- Allen, A. S., tug, 14 g. t., b. '78, Chicago, in com.
- Allen, E. B., schr., 275 t., b. Ogdensburg, '64, sunk by col. off Thunder Bay, '71.
- Allen, E. F., schr., b. '62, Black River, O.
- Allen, Eliza, Can. schr., 150 n. t., b. '75, Port Dover, in com.
- Allen, Ethan, driven on rocks L. Sup., '59.
- Allen, James, stmr., 258 t., b. Chicago, '38, broken up, '43.
- Allen, Margaret, schr., 80 t., wrecked near Death's Door, '47.
- Allen, R. G., scow, sunk L. St. Clair, '61, by col.
- Allen, W. B., schr., b. '66, passed out.
- Allen, W. F., schr., b. '53, Black River, O.
- Alliance, stmr., Det. ferry boat, '42, name changed to Undine.
- Alliance, Can. schr., 400 g. t., b. '56, Oshawa.
- Alliance, schr., wrecked Oswego, '63.
- Alliance, Can. schr., 33 g. t., b. '67, Port Dover, in com.
- Alliance, stmr., 50 t., broke moorings and went over Niagara Falls, '69.
- Allie, Can. prop., 11 g. t., b. '90, Brockville, in com.
- Allie C., slp., 20 g. t., b. '90, Clayton, in com.
- Allies, bark, damaged, '59.
- Allie T., slp., 7 g. t., b. '94, in com.
- Allison, James L., std., 54 g. t., b. '90, Saginaw, passed out, '93.
- Alma, schr., foundered with all hands, L. Erie, '66.
- Alma, schr., sunk Port Hope, '77.
- Alma., schr., lost '92, L. Mich.
- Alma C., tug, 12 g. t., b. '95, Detroit, in com.
- Alma Munro, Can. stmr., liner in '72.
- Almeda, schr., 260 t., ashore Port Glasgow, sunk Buffalo, '64.
- Allmedinger, J. M., prop., 183 g. t., b. '83, Benton Harbor, lost Fox Point, '95.
- Almenia, schr., 211 t., b. Port Burwell, passed out.
- Almeron, Thomas, schr., 35 g. t., b. '91, Bay City, passed out, '95.
- Almighty, stmr., wrecked Long Point, '64.
- Almira, scow, b. '49, Black River, O.
- Alnwick, schr., burned Chicago, '71.
- Aloha, schr., 522 g. t., b. '88, Mt. Clemens, Mich., abandoned L. Mich., '98.
- Alpena, stmr., 617 t., b. Marine City, '66.
- Alpena, stmr., wrecked L. Mich., '80.
- Alpena, schr., 63 t., b. Alpena, '68.
- Alpena, prop., 369 g. t., b. '82, Gibraltar, Mich., burned L. St. Clair, '91.
- Alpha, schr., 66 t., b. Ohio City, '47.
- Alpha, stmr., 73 t., b. Detroit, '70.
- Alpha, tug, 43 g. t., formerly Shaurgaum.
- Alpha, tug, i., 43 g. t., b. '82, Buffalo, in com.
- Alpha, tug, i., 87 g. t., b. '81, Chicago.
- Alpha, Can. tug, 55 n. t., b. '88, Meaford, in com.
- Alpha, prop., s., 132 g. t., b. '95, Cleveland, in com.
- Alps, schr., 108 t., in com., '40, lost on L. Erie, '51.
- All Talk, slp., 12 g. t., b. '92, Conneaut, in com.
- Alta, schr., 539 g. t., b. '84, West Bay City, in com.
- Altair, schr., wrecked Chantry island, '64.
- Altana, 316 t., b. Detroit, '33.
- Altha, stmr., 7 g. t., b. '93, in com.
- Alva, prop., s., 2,420 g. t., b. '93, Cleveland, in com.
- Alva B., tug, 84 g. t., b. '90, Buffalo, in com.
- Alverson, Homer D., schr., 760 g. t., b. '85, Port Huron, chartered seaboard and sunk St. Lawrence r., '98.
- Alvin, schr., 282 t., b. Maumee, passed out.
- Alvina, schr., 95 g. t., b. '71, Fair Haven, Mich., in com.
- Alvon, C. G., schr., 308 t., wrecked L. Ont., '67.
- Alwilda, schr., burned '54.
- Alzara, Can. schr., 33 g. t., b. '82, Port Burwell, in com.
- Alzora, Can. scow, 43 g. t., b. '90, Belle River, in com.
- Amadeus, James, tug, 44 g. t., b. '74, Cleveland, sunk L. Erie, '92.
- Amadis, sty., 85 g. t., b. '94, Searsport, Me., in com.
- Amaranth, schr., 272 g. t., b. '64, Milan, O., in com.
- Amazon, schr., 200 t., ashore L. Mich., '41.
- Amazon, brig, wrecked Point Edward, '64.
- Amazon, stmr., ashore L. Mich., '73.
- Amazon, s. bge., 3,599 g. t., b. '97, South Chicago, in com.
- Amazonas, prop., 1,931 n. t., b. '98, West Bay City, in com.
- Amboy, schr., 894 g. t., formerly Helena, b. '74, Cleveland, in com.
- Amelia, schr., 80 t., one of Perry's squadron, b. 1797, as the Wilkinson, went to decay at Erie.
- Amelia, schr., b. Clayton, passed out.
- Amelia, schr., wrecked near Goderich, '64.
- America, schr., ashore Long Point, '27.

- America, schr., 60 t. (old v.), wrecked L. Mich., '41.  
 America, stmr., b. before '34 as the Chas. Carroll.  
 America, stmr., 300 t., b. Niagara, '39.  
 America, Can. schr., 300 g. t., b. '40, Niagara, tow boat.  
 America, stmr., 130 t., b. St. Clair, '47, wrecked Point Pelee, '54.  
 America, stmr., 600 t., b. Port Huron, wrecked Dunkirk, '54.  
 America, schr., 271 g. t., b. '49, Clayton, in com.  
 America, Can. schr., 700 g. t., b. '54, Niagara.  
 America, Can. prop., 636 g. t., b. '63, St. Catharines, in com.  
 America, schr., lost L. Mich., '66.  
 America, schr., 281 g. t., b. '70, lost.  
 America, s. prop., 2,171 g. t., b. '89, Buffalo, in com.  
 America, Can. tug, now the Can. tug Monarque.  
 America, stmr., 13 g. t., b. '93, in com.  
 America, sty., 13 g. t., b. '93, Chicago, sunk by col. Rains island, '95.  
 America, slp., 6 g. t., b. '94, in com.  
 America, Can. stmr., 240 n. t., b. '95, Kingston, in com.  
 America, s. tug, 123 g. t., b. '97, Buffalo, in com.  
 America, bge., burned St. Clair, '98.  
 America, s. stmr., b. '98, Detroit, in com.  
 American, schr., 288 t., b. '70, Three Mile Bay.  
 American, schr., 600 t., foundered, '94.  
 American Eagle, schr., 48 t., b. Cleveland, ashore at Cleveland, '20.  
 American Eagle, tug, 34 g. t., b. '65, Buffalo, sunk L. Erie by col., '91.  
 American Eagle, tug, burned Cleveland, '85.  
 American Eagle, scow, lost, '71.  
 American Eagle, prop., 161 g. t., b. '80, Sandusky, in com.  
 American Eagle, stmr., boiler exploded near Kelley's island, '82, 3 lives lost.  
 American Giant, schr., 365 g. t., b. '68, Bay City, passed out, '97.  
 American Republic, bark, 459 t., abandoned L. Mich., '60.  
 American Union, bark, 764 t., b. Cleveland, '62, wrecked L. Hur., '94.  
 Ames, Cheeny, schr., 298 g. t., b. '73, Youngstown, N. Y., in com.  
 Ames, J. C., prop., 537 g. t., b. '82, Manitowoc, in com.  
 Ames, S. P., schr., 43 g. t., b. '79, Mount Rose, Mich., passed out, '95.  
 Amethyst, tug, lost, '88.  
 Amherst, scow, b. '47, Black River, O.  
 Amiot, Lilly, schr., 25 g. t., b. '73, Cheboygan, in com.  
 Amity, stmr., 217 t., b. Chatham, '56, wrecked Long Point, '67.  
 Amoskeage, stmr., 268 g. t., later the Horace Taber.  
 Ampere, Can. sty., 5 g. t., b. '94, Hamilton, in com.  
 Amsden, C., schr., 184 g. t., b. '63, Fremont, O., passed out, '97.  
 Amsden, Sam, schr., 70 t., in com., '69.  
 Anabel, prop., 48 g. t., b. '92, Manitowoc, in com.  
 Anawan, schr., stranded Cleveland, '49.  
 Anawan, scow, 43 t., b. '47, lost on L. Erie, '51.  
 Anchar, Lucy, schr., struck by lightning, '62.  
 Andaste, prop., s., 1,574 g. t., b. '92, Cleveland, in com.  
 Andes, schr., 360 t., sunk L. Erie, '68.  
 Anderson, Can. prop., 16 g. t., b. '88, Midland, in com.  
 Anderson, Alex, schr., 738 g. t., b. '92, Marine City, in com.  
 Anderson, Bob., tug, 118 g. t., b. '62, Cleveland, in com.  
 Anderson, C., Can. tug., 60 n. t., b. '78, Buffalo, in com.  
 Anderson, Francis R., tug, 31 g. t., b. '85, Chicago, in com.  
 Anderson, Jane, schr., 16 g. t., b. '78, Cleveland, in com.  
 Anderson, Jessie, schr., 252 t., b. Sandusky, '61.  
 Anderson, Jessie, schr., sunk Long Point, '71.  
 Anderson, Major, bark, 568 t., b. '61, Cleveland, total wreck, '71.  
 Anderson, Major, schr., 143 t., b. Oswego, '61, lost L. Mich., '63.  
 Anderson, S., stmr., 282 g. t., later the Quickstep.  
 Anderson, W. M., Can. prop., 121 g. t., b. '84, Port Burwell, in com.  
 Andover, schr., 190 t., b. Black River, O., '44, abandoned L. Hur., '61.  
 Address, Bertha, Can. tug, 21 n. t., b. '76, Two Rivers, in com.  
 Andrew, schr., stranded Buffalo, '32.  
 Andrews, A., Jr., tug 35 g. t., b. '73, Toledo, in com.  
 Andrews, Abbie L., schr., 278 g. t., b. '73, Toledo, in com.  
 Andrews, David, schr., ashore near Oswego, '80.  
 Andrews, S. G., schr., 197 t., ashore Port Scott, '85.  
 Andromeda, schr., 207 t., b. Madison, O., '48.  
 Andromeda, schr., sunk L. Mich., '58.  
 Andy, tug, 53 g. t., b. '96, Benton Harbor, in com.  
 Angelica, English sloop, 66 t., b. Detroit, 1771.  
 Angeline, schr., 10 g. t., b. '82, Egg Harbor, Wis., in com.  
 Angeline, sty., total loss, Dunkirk, '82.  
 Angler, tug, 19 g. t., b. '80, Detroit, in com.  
 Anglesea, Can. stmr., 290 n. t., b. '70, Levis, in com.  
 Anglin, Robert, Can. stbge., 105 n. t., b. '69, Kingston, in com.  
 Anglo Saxon, Can. schr., 200 g. t., b. '64, St. Catharines.  
 Anglo Saxon, bge., 314 t., b. '64, wrecked straits, '87.  
 Anglo Saxon, Can. schr., 446 g. t., b. '64, Port Dalhousie, in com.  
 Anglo Saxon, Can. prop., 69 g. t., b. '68, Lindsay, in com.  
 Ann, schr., b. '21, Black River, O., wrecked Long Point, '27; several lives lost.  
 Anna, tug, 13 g. t., b. '69, Buffalo, passed out, '91.  
 Anna, Can. tug, 14 n. t., b. '83, Cardinal, in com.  
 Anna, tug, 25 g. t., b. '92, Grand Haven, in com.  
 Anna Maud, schr., ashore L. Ont., '65.  
 Annandale, Can. schr., 204 n. t., b. '68, Kingston, in com.  
 Anna R., schr., 41 g. t., b. '86, Bass Island, Wis., in com.  
 Ann Arbor, No. 1, prop., 1,128 g. t., b. '92, Toledo, in com.  
 Ann Arbor, No. 2, prop., 1,145 g. t., b. '92, Toledo, in com.  
 Ann Arbor, No. 3, prop., 1,677 g. t., b. Cleveland, '98, in com.  
 Ann Maria, schr., 256 g. t., b. '64, Conneaut, in com.  
 Ann Ruth, schr., 36 t., passed out.  
 Anne and Jane, Can. schr., one of first two vessels to pass through Welland canal, '29.  
 Annette Marie, Can. schr., 290 n. t., b. '67, Quebec, in com.  
 Anne Mc., Can. y., 11 t., b. Port Arthur, '97, in com.  
 Annex, schr., '98 g. t., b. '85, Ogdensburg, passed out, '95.  
 Annexation, Can. schr., 91 g. t., b. '50, Goderich, in com.  
 Annie, tug, sank L. Mich., '80.  
 Annie, Can. schr., 30 g. t., b. '77, Snow Creek, in com.  
 Annie, Can. bge., 70 g. t. b. '83, Dresden, in com.  
 Annie, stpd., 64 g. t., b. '87, Bay City, in com.  
 Annie, prop., 79 g. t., b. '89, Lorain, in com.  
 Annie D., tug, 20 g. t., b. '86, Saugatuck, in com.



- Annie Maria, schr., ashore Stony Island, '69.  
 Anspach, tug, 15 g. t., b. '79, Detroit, in com.  
 Ant, schr., 120 t., b. Montreal, '70.  
 Antares, schr., sank near Manistee, '67.  
 Antelope, schr., 75 g. t., b. '28, Perrysburg, O.  
 Antelope, Can. schr., 180 g. t., b. '54, Port Dalhousie, in com.  
 Antelope, schr., 220 t., b. Port Robinson, '54. Lost near St. Joseph, '57, 5 lives lost.  
 Antelope, scow, lost L. Erie, '59.  
 Antelope, Can. brig, lost L. Erie, '60.  
 Antelope, schr., 523 g. t., b. '61, Newport, foundered '97.  
 Antelope, prop., burned at Buffalo, '67, made a steam barge.  
 Antelope, Can. schr., 378 n. t., b. '74, Port Dalhousie, in com., formerly bge.  
 Antelope, bge., burned Saginaw, '85.  
 Antelope, prop., 14 g. t., b. '77, Rocky river, O., passed out, '95.  
 Antelope, schr., 32 g. t., b. '78, Muskegon, capsized L. Mich., '94.  
 Antelope, Can. tug, 102 n. t., b. '87, Montreal, in com.  
 Antelope, schr., lost '94, L. Mich., 4 lives lost.  
 Anthony, E. L., tug, 14 t., b. '69, burned Chicago, '85.  
 Antrim, S. schr., 3,200 g. t., b. '97, Cleveland, in com.  
 Appomattox, prop., 2,643 g. t., b. '96, West Bay City, in com.  
 Apprentice Boy, schr., 208 g. t., b. '67, Milwaukee, in com.  
 Arab, schr., 158 t., b. Buffalo, '54, foundered L. Mich., '83.  
 Arabaska, slp. on Lake Erie in 1800.  
 Arabella, schr., 66 t., b. Ohio City, '47.  
 Arabia, sch., b. '52, wrecked Georgian Bay, '84.  
 Arabia, Can. bark, 450 t., sailed Kingston to Liverpool, '54.  
 Arabia, prop., i., 1,395 g. t., b. '73, Buffalo, in com.  
 Arabia, sty., 14 g. t., b. '93, Chicago, in com.  
 Arabian, Can. schr., 350 g. t., b. '51, Kingston.  
 Arabian, brig, 350 t., b. Niagara, '53, wrecked on L. Huron, '56.  
 Arabian, bark, sunk L. Erie, '66, 4 lives lost.  
 Arabian, Can. s. prop., 709 n. t., b. '92, Hamilton, in com.  
 Aragon, prop., 1,450 g. t., b. '96, Wyandotte, chartered ocean service, '98.  
 Araxes, prop., 569 g. t., b. '56, Buffalo, passed out, '95.  
 Arbuckle, W. M., schr., 170 t., passed out  
 Arbutus, Can. tug, 60 n. t., b. '87, Wallaceburg, in com.  
 Arcadia, prop., 230 g. t., b. '88, Milwaukee, in com.  
 Arcadian, schr., wrecked by col., L. Ont., '58  
 Arctic, stmr., 857 t., b. Newport, '51, stranded on L. Sup.  
 Arctic, schr., 185 g. t., b. '53, Ashtabula, sunk by col., '95, L. Hur.  
 Arctic, Can. schr., 172 g. t., b. '58, Port Dalhousie, in com.  
 Arctic, prop., 596 g. t., b. '64, Cleveland, sunk L. Hur., '93.  
 Arctic, tug, 53 g. t., b. '81, Manitowoc, lost.  
 Arctic, tug, 23 g. t., b. '91, Sandusky, in com.  
 Arctic, prop., 94 g. t., b. '93, Grindstone Pt., N. Y., in com.  
 Arcturus, bge., 275 t., sunk Saginaw bay, '88.  
 Arcturus, schr., 300 g. t., b. '53, Huron, O.; passed out, '95.  
 Ardent, schr., total loss. Green bay, '80.  
 Arenac, schr., 521 g. t., b. '88, St. Clair, Mich., in com.  
 Arendal, schr., 207 g. t., b. '73, Sheboygan, in com.  
 Argenta, stmr., b. Wyandotte, '72, passed out.  
 Argentina, prop., 13 g. t., b. '93, Chicago, passed out, '95.  
 Argo, stmr., b. Detroit, '27.  
 Argo, stmr., b. '30, Detroit, first steam ferry boat at Detroit, '30 to '34.  
 Argo, stmr., 111 t., b. '48, Detroit, ferry boat, exploded, rebuilt, sailed to '72.  
 Argo, schr., wrecked near Chicago, '66.  
 Argo, bge., 168 g. t., b. '68, in com.  
 Argo, sty., 14 g. t., b. '73, in com.  
 Argo, schr., 14 g. t., formerly Lizzie T. Davis, b. '75, Bath, Me., passed out, '92.  
 Argo, sty., 48 g. t., formerly Lelia, b. '78, Bristol, R. I., passed out, '97.  
 Argo, prop., 721 g. t., b. '95, Detroit, in com.  
 Argonaut, prop., 1,118 g. t., b. '73, Detroit, in com.  
 Argosy, bge., 168 g. t., b. '68, in com.  
 Argus, Can. prop., 27 g. t., b. '84, Lockport, in com.  
 Argyle, schr., 109 t., damaged L. Erie, '44.  
 Argyle, stmr., sunk, '84.  
 Argyle, tug, 41 g. t., b. '91, Buffalo, in com.  
 Ariadne, schr., b. Sacket's Harbor, '21, wrecked, '22.  
 Ariadne, schr., in com., '32.  
 Ariadne, schr., 172 t., wrecked Mexico bay, '96.  
 Ariadne, Can. tug, 36 n. t., b. '85, Wallaceburg, in com.  
 Ariam, schr., burned Welland canal, '63.  
 Ariel, U. S. schr., 112 t., 4 guns, b. Erie, '13, in battle Lake Erie, burned by British at Buffalo, '13.  
 Ariel, stmr., 165 t., b. Sandusky, '53, burned Detroit r., '68.  
 Ariel, Can. schr., 162 g. t., b. '67, Quebec, in com.  
 Ariel, schr., wrecked near Collingwood, Ont., '70.  
 Ariel, prop., 202 g. t., b. '81, Detroit, in com.  
 Ariel, sty., 19 g. t., b. '91, Champlain, N. Y., passed out, '95.  
 Arizona, prop., sunk L. St. Clair, '73.  
 Arizona, stmr., 810 t., b. Cleveland, '65, burned Marquette, '87.  
 Arizona, prop., 765 g. t., b. '68, Cleveland, in com.  
 Ark, schr., 50 t., b. Chicago, '45.  
 Ark, bge., wrecked L. Hur., '66, 4 lives lost.  
 Ark, Can. schr., 521 g. t., b. '75, Port Dalhousie, in com.  
 Arkansas, schr., wrecked near Toronto, '52.  
 Arkansas, schr., wrecked Kenosha, '58.  
 Arlington, Can. prop., 30 n. t., b. '78, Harwood, in com.  
 Armada, schr., 235 t., passed out.  
 Armada, bge., lost, '69.  
 Armenia, Can. prop., 593 n. t., b. '73, Chatham, in com.  
 Armenia, Can. prop., 127 n. t., b. '76, Picton, in com.  
 Armenia, Can. schr., 142 g. t., b. '81, Ottawa, in com.  
 Armenia, schr., 2,040 g. t., b. '96, West Bay City, in com.  
 Armour, Philip D., prop., 1,991 g. t., b. '89, Detroit, in com.  
 Armstrong, stmr., sunk St. Lawrence r., '89.  
 Armstrong, Chas. E., Can. tug, 81 n. t., b. '94, St. Catharines, in com.  
 Armstrong, C. W., tug, burned Bay City, '70.  
 Armstrong, J., Can. tug, now the A. Seaman.  
 Armstrong, Thos., schr., 89 g. t., b. '88, Isle-La-Mott, Vt., in com.  
 Armstrong, Wm., prop., 181 g. t., b. '76, Ogdensburg, in com.  
 Arno, Can. schr., 152 g. t., b. '81, Montreal, in com.  
 Arnold, Agnes, tug, 30 g. t., formerly Bob Mills, b. '64, Buffalo, burned '98, Green Bay.  
 Arnold, B. W., prop., 944 g. t., b. '85, West Bay City, burned '96.



- Arnold, Fanny, Can. prop., 73 g. t., b. '82, Owen Sound, in com.
- Arnold, John R., Can. std., 116 g. t., b. '84, Tonawanda, in com.
- Arnold, S. D., tug, 90 g. t., b. '71, De Pere, Wis., passed out, '94.
- Arnold, W. W., schr., 426 t., lost with all hands L. Sup., '69.
- Arnett, Mary, Can. prop., 8 g. t., b. '86, Midland, in com.
- Arrow, stmr., 350 t., b. Trenton, '48, condemned in Green Bay, '63.
- Arrow, schr., 65 t., b. 55, total wreck Two Rivers, '83.
- Arrow, schr., 281 t., total loss, '69.
- Arrow, schr., 39 g. t., b. '79, Oshkosh, in com.
- Arrow, S., stmr., 365 g. t., b. '95, Wyandotte, in com.
- Arthur, schr., 335 g. t., formerly G. C. Trumff, b. '73, Manitowoc, in com.
- Arthur, tug, 37 g. t., b. '89, Milwaukee, in com.
- Arthur, tug, 25 g. t., b. 90, Saginaw, in com.
- Arthur, Can. stmr., 64 n. t., b. '91, Sorel, in com.
- Arthur, Can. bge., now the Balmoral.
- Arthur, D., tug, 22 g. t., b. '89, Buffalo, in com.
- Artie, schr., lost '94, L. Mich.
- Arundel, i., prop., 339 g. t., b. '78, Buffalo, in com.
- Arundel, schr., 207 g. t., b. '73, Sheboygan, passed out, '92.
- Ascension, tug, in com., '63.
- Ash, Annie M., schr., 1,258, g. t., b. '88, Cleveland, chartered ocean service, '98.
- Ash, James, tug, 22 g. t., b. '73, Buffalo, in com.
- Ashford, stcb., 132 g. t., b. '83, Buffalo, in com.
- Ashland, brig, 220 t., b. Cleveland, '44, wrecked Long Point, '54.
- Ashland, schr., 991 g. t., b. '86, Trenton, Mich., in com.
- Ashley, E. G., tug, burned Toledo, '97.
- Ashtabula, schr., 75 t., foundered near Milwaukee, '83.
- Ashton, Maggie, tug, 14 g. t., b. '71, Buffalo, in com.
- Asia, schr., b. '48, Black River, O., sunk L. Mich., '55.
- Asia, Can. stmr., 350 t., b. '73, sunk, '81, raised, burned '82, L. Hur., 100 lives lost.
- Asia, sty., 14 g. t., b. '93, Chicago, in com.
- Asilda, Can. tug, 32 n. t., b. '84, Buffalo, in com.
- Asp, U. S. armed v. on L. Ont., '13.
- Asp, Can. schr., b. Toronto, on L. Ont., '16.
- Asp, schr., lost L. Ont., '20, several lives lost.
- Astor, stmr., 200 t., b. Green Bay, '45, condemned.
- Astor, John Jacob, first American ves. launched in L. Sup. in '35, wrecked Copper Harbor, 44.
- Atalanta, schr., in com. '33.
- Ataunto, schr., 308 g. t., b. '61, Buffalo, passed out, '97.
- Athabaska, Can. prop., 2,105, n. t., b. '83, Glasgow, in com.
- Athene, schr., 7 g. t., b. '92, in com.
- Athenia, Can. prop., 18 g. t., b. '94, Hamilton, in com.
- Athenian, schr., total wreck Oscoda, '80.
- Athens, schr., 2,073 g. t., b. '97, West Bay City, in com.
- Atkins, Bell, schr., lost L. Ont., '57.
- Atlanta, schr., 100 t., b. Fairport, '32.
- Atlanta, schr., wrecked near Dover, Ont., '51.
- Atlanta, schr., foundered L. Sup., '91, entire crew lost.
- Atlanta, prop., 1,129 g. t., b. '91, Cleveland, in com.
- Atlantic, schr., 119 t., sunk by collision L. Erie, '40.
- Atlantic, stmr., 1,155 t., b. Newport, '49, sunk at Long Point by col., '52, 250 lives lost, raised '73.
- Atlantic, prop., 656 g. t., b. '63, Cleveland, in com.
- Atlantic, s., high'r, 253 g. t., b. '80, Detroit, in com.
- Atlantic, Can. prop., 391 n. t., b. '82, Owen Sound, in com., formerly the Manitoulin.
- Atlantis, prop., 138 g. t., b. '87, Mt. Clemens, Mich., in com.
- Atlas, schr., b. Dexter, '36, sunk near Oswego '39.
- Atlas, stmr., wrecked Grand River, Ont., '51.
- Atlas, stmr., sunk in St. Lawrence r., '51.
- Atlas, Can. stmr., b. Montreal, broken up.
- Atmosphere, schr., 275 g. t., b. '63, Milan, O., in com.
- Attrill, H. Y., schr., stranded L. Mich., '53.
- Atwater, S. T., schr., 322 g. t., b. '66, Irondequoit, N. Y., wrecked '95, Manitoulin island.
- Audubon, brig, b. '54, Black River, O., sunk on L. Hur., '54.
- Auger, Charles H., tug, 25 g. t., b. '89, Grand Haven, in com.
- Augusta, Can. bge., 391 n. t., b. '71, St. Catharines, in com., sunk in L. Ont., '98, with crew of 7.
- Augusta, Can. tug, 57 n. t., b. '82, Port Robinson, in com.
- Augustus, schr., 54 g. t., b. '85, Spoonville, Mich., in com.
- Augustus, Can. bge., 958 n. t., b. '93, Garden Island, in com.
- Aunt Betsey, stmr., on river at Saugatuck, '56 to '69.
- Aunt Ruth, scow, 111 g. t., b. '63, Globeville, O., in com.
- Aurania, s. schr., 3,113 g. t., b. '95, Chicago, in com.
- Aurelia, Can. tug, 45 n. t., b. '89, Buffalo, in com.
- Aurora, schr., 32 t., b. Huron, O., '16, capsized L. Ont., '44, 2 lives lost.
- Aurora, Can. schr., 295 n. t., b. '67, Quebec, in com.
- Aurora, prop., 2,282 g. t., b. '87, Cleveland, burned L. Erie, '98.
- Aurora Borealis, schr., b. Averill, sunk Detroit r. '47.
- Ausable, prop., 19 g. t., b. 96, Long Island City, N. Y., in com.
- Austerlitz, schr., 134 t., in com. '32, passed out.
- Austin, Can. bge., 200 t., foundered Saginaw bay, '83, 7 lives lost.
- Austin, D. S., schr., 281 g. t., b. '72, Toledo, wrecked Ludington, '98.
- Austin, J. C., stcb., 135 g. t., b. '86, Lockport, N. Y., in com.
- Austin, J. S., schr., 300 g. t., b. '63, Ryerse, Ont., in com.
- Australasia, prop., 1,829 g. t., b. '84, West Bay City, burned L. Mich., '96.
- Australia, schr., lost, Port Colborne, '59.
- Australia, schr., capsized, '62.
- Australia, schr., 300 t., wrecked near Holland, '88.
- Australia, sty., 14 g. t., b. '93, Chicago, later the Gov. Morton.
- Australia, s. bge., 3,745 g. t., b. '97, South Chicago, in com.
- Austria, schr., b. Buffalo, '56.
- Austria, sty., 14 g. t., b. '93, Chicago, passed out '97.
- Autocrat, schr., sunk by col. L. Mich., '66.
- Avenger, schr., 78 t., b. Cottersville, '45, stranded '61.
- Averill, Wm. J., prop., 1,603 g. t., b. '84, Detroit, in com.
- Avery, H. M., schr., 33 g. t., b. '87, South Haven, in com.
- Avery, Maggie M., schr., 12 g. t., b. '88, South Arm, Mich., passed out '94.
- Avery, Newell, tug, 26 g. t., b. '75, Muskegon, in com.
- Avery, T. Y., schr., 256 g. t., b. '55, Oswego, in com.
- Avery, Waldo A., prop., 1,294 g. t., b. '84, West Bay City, burned at Straits, '93.
- Avery, Waldo A., tug, 70 g. t., b. '80, Bay City, later the Phenix.
- Avery, Wm., stmr., b. before '34, formerly the Brownville.
- Avery, Wm., tug, 9 t., b. '69.
- Avoca, schr., stranded near Cleveland, '50.
- Avon, prop., 1,702 g. t., b. '77, Buffalo, in com.

- Avon, Can. prop., 347 t., sunk L. Hur., '69.  
 Avoset, sloop, 31 g. t., b. '93, Cleveland, in com.  
 Avrill, James, schr., 67 g. t., b. '64, Champlain, passed out, '92.  
 Axford, Wm. L., schr., 33 g. t., b. '70, New Baltimore, Mich., in com.  
 Axmouth, 30 t., hauled over Sault Portage, '17, relaunched in L. Sup.  
 Ayer, J. V., bark, foundered L. Mich., '56, 10 lives lost.  
 Ayer, Mary D., schr., 336 g. t., formerly Jesse Hoyt, b. '54, Saginaw, foundered L. Mich., '96, 5 lives lost.  
 Aylmer, Can. prop., 26 g. t., b. '79, Aylmer, in com.  
 Ayr, Can. schr., 312 g. t., b. '58, Port Dalhousie, in com.  
 Azalea, sty., 74 g. t., b. '95, Detroit, passed out, '97.  
 Azof, Can. schr., 202 n. t., b. '66, Wellington Sq., in com.  
 Azoo, schr., sunk by col., '70, L. Ont.  
 Aztec, prop., 834 g. t., b. '89, Marine City, in com.
- B. & B.**, stcb., 99 g. t., b. '76, Lockport, in com.  
 Babcock, D. L., tug, 25 g. t., b. '63, New Baltimore, Mich., passed out, '95.  
 Babcock, W. L., tug, 64 g. t., b. '88, Buffalo, in com.  
 Babineau, schr., ashore, '77, Showinaga bay.  
 Baby, sty., in com., '84.  
 Bacchus, schr., stranded, '52.  
 Bacon, F. W., tug, 37 g. t., b. '91, Buffalo, in com.  
 Bacon, Melvin S., schr., 614 g. t., b. '74, Vermilion, O., chartered ocean, '98.  
 Backus, F. W., prop., 289 t., b. '46, burned Racine, '66.  
 Badger, stl., b. Milwaukee, '37.  
 Badger, schr., 65 g. t., b. '81, Fort Howard, Wis., in com.  
 Badger, Horace H., schr., 263 g. t., formerly Kate Gillett, b. '67, Conneaut, in com.  
 Badger State, prop., 864 t., in com., '60.  
 Badger State, prop., 1,115 g. t., b. '62, Buffalo, in com.  
 Badger State, bark, total loss, L. Mich., '70.  
 Bahama, schr., 333 g. t., b. '63, Oswego, in com.  
 Bailey, Caroline E., schr., passed out.  
 Bailey, Daniel E., schr., 648 g. t., later the Iron City.  
 Bailey, H., tug, 22 t., b. '69.  
 Bailey, J. E., schr., wrecked L. Mich., '84.  
 Baine, Jessie, prop., 44 g. t., b. '88, Clayton, in com.  
 Baird, Harry, Can. schr., 36 g. t., b. '87, Kincardine, in com.  
 Baker, B. M., schr., 186 g. t., b. '69, Charlotte, N. Y., passed out, '96.  
 Baker, Dan., scow, 196 t., b. '69, sunk Sandusky, '74.  
 Baker, E. C., prop., i., 154 g. t., b. '89, Philadelphia, in com.  
 Baker, Fannie L., tug, 43 g. t., b. '88, Detroit, in com.  
 Baker, Nettie, sty., 13 g. t., b. '93, Buffalo, in com.  
 Baker, Tim., schr., 325 t., wrecked, '88.  
 Baker, Timothy, stmr., hard aground Windmill Point, '71.  
 Baker, W. L., schr., 19 g. t., b. '83, Ashtabula, passed out, '91.  
 Balcon, stmr., 51 g. t., b. '82, Oshkosh, in com.  
 Baldwin, bge., sunk L. Erie, '83.  
 Baldwin, H. P., schr., 495 g. t., b. '66, Detroit, in com.  
 Baldwin, Mary, Can. schr., 7 g. t., b. '76, Sacket's Harbor, in com.  
 Baldwin, N. C., schr., 145 t., in com., '44.  
 Baldwin, S. C., prop., 412 g. t., b. '71, Detroit, in com.  
 Balize, tug, 250 g. t., b. '63, Cleveland, in com.  
 Balize, tug, formerly Mary Grandy, arrived Detroit, from New York, '67.  
 Ball, O. M., tug, in com. about '66.  
 Ballantyne, Can. prop., 14 g. t., b. '92, Simcoe, in com.  
 Ballard, Mary, schr., foundered L. Ont., '66, 9 lives lost.
- Ballentine, David, prop., 1,395 g. t., later the Quito.  
 Ballentine, H. A., tug, 87 g. t., b. '67, East Saginaw, later the J. S. Blazier.  
 Ballou, H. M., Can. schr., 80 n. t., b. Oak Orchard, in com.  
 Balmoral, Can. bge., 231 n. t., b. '73, Quebec, in com., formerly Arthur.  
 Baltic, schr., 96 t., b. Birchielle, '42.  
 Baltic, stmr., 825 t., b. Buffalo, '47, made a bge. in '63.  
 Baltic, schr., 120 t., b. Milwaukee, '46.  
 Baltic, brig., wrecked Port Stanley, '55.  
 Baltic, Can. stmr., 640 t., b. Owen Sound, '67.  
 Baltic, schr., 369 t., wrecked Oswego, '67.  
 Baltic, bge., sank with all hands off Long Point, '72.  
 Baltic, Can. prop., 1,324 t., b. Collingwood, '88, burned Collingwood, '96.  
 Baltic, schr., 915 g. t., b. '90, West Bay City, in com.  
 Baltic, schr., lost, '94, L. Mich.  
 Baltimore, schr., b. '36.  
 Baltimore, stmr., hauled over Sault Portage, '46, to L. Sup.  
 Baltimore, stmr., 500 t., b. Monroe, '47, wrecked at Sheboygan, '55.  
 Bancroft, schr., 112 t., b. Point Peninsula, L. Ont., '36.  
 Bancroft, E., sloop, in com., '46.  
 Bangalore, Can. bge., 395 n. t., b. '77, Kingston, in com.  
 Bangs, C. W., Can. schr., 152 g. t., b. '86, Ottawa, in com.  
 Banks, Louis, tug, 19 g. t., b. '97, Buffalo, in com.  
 Banner, bge., 282 t., b. '46, wrecked near Fish Point, '88.  
 Banner, brig, 431 t., b. Ohio City, '47.  
 Banner, schr., 72 t., b. '64, sunk near Sturgeon bay, '83.  
 Banner, Emma, schr., 92 g. t., b. '89, Onekama, Mich., capsized L. Mich., '97.  
 Bannockburn, Can. prop., 1,735 n. t., b. '93, Middlesboro, in com.  
 Banshee, Can. schr., 450 g. t., '56, Montreal.  
 Banshee, prop., 400 t., b. Portsmouth, '54, sunk off South Bay, L. Ont., '61.  
 Bapst, Frank L., tug, 42 g. t., b. '95, Buffalo, in com.  
 Barbarian, schr., 297 g. t., b. '55, Oswego, wrecked L. Mich., '98.  
 Barber Geo., schr., '98 g. t., b. '57, Milwaukee, passed out, '94.  
 Barber J., prop., burned L. Mich., '71, 5 lives lost.  
 Barcelona, stmr., 102 t., b. Dunnville, Ont., '36, formerly Princess Victoria, made into a schr.  
 Barkalow, M. P., schr., 121 g. t., b. '71, Perry, O., in com.  
 Barker, F. D., schr., 290 t., b. Clayton, '67, wrecked L. Mich., '87.  
 Barker, Gracie, prop., 73 g. t., b. '79, Grand Haven, burned Harbor Springs, '95.  
 Barker, J. A., schr., b. '36, stranded L. Mich., '45.  
 Barker, S. B., prop., 177 g. t., b. '82, Grand Haven, Mich., in com.  
 Barker, Thos. L., schr., b. Manitowoc, '81.  
 Bark Swallow, Can. schr., 14 g. t., b. Port Credit, in com.  
 Barney, T. T., stmr., sunk.  
 Bartlett, tug, sunk Bay City, '84.  
 Bartlett, Col. prop., 11 g. t., b. '86, Fremont, O., in com.  
 Bartlett, E. B., s. prop., 1,400 g. t., b. '91, West Superior, in com.  
 Barton, Agnes, schr., 110 t., b. Buffalo, '35, sunk L. Erie, '55.  
 Barton, Benj., schr., 115 t., b. '36, wrecked L. Erie, '38, released.



- Barton, Clara, schr., 403 t., b. '67, wrecked Grand Haven, '83.
- Barton, P. F., tug, 40 t., b. Buffalo, '53, burned St. Clair r., '65.
- Barwick, Bessie, Can. prop., 460 t., b. St. Catharines, '65, wrecked L. Sup., '87.
- Barlett, A. F., tug, 10 g. t., b. '71, East Saginaw, passed out, '92.
- Barlum, John J., schr., 1,184 g. t., b. '90, Toledo, in com.
- Barmer, Emma, schr., 92 g. t., b. '89, Sheboygan, passed out, '91.
- Barnes, Bertha, schr., 330 g. t., b. '72, Sheboygan, in com.
- Barnes, Burt, schr., 134 g. t., b. '82, Manitowoc, in com.
- Barnes, C. C., schr., 582 g. t., b. '73, Manitowoc, in com.
- Barnes, Frank C., tug, 46 g. t., b. '92, Manistee, in com.
- Barnes, Jim, slp., 10 g. t., b. '70, Grand Haven, in com.
- Barnes, Joe, stcb., 135 g. t., b. '78, Havana, N. Y., passed out, '92.
- Barney, F. T., schr., sunk by col. in Straits, '68.
- Barney, D. N., schr., 156 t., b. Clayton, L. Ont., before '49.
- Barney, Matilda, first stmr., St. Joseph r., '34.
- Barnhurst, Harry G., tug, 37 g. t., b. '85, Erie, in com.
- Barnum, Wm. H., prop., 1,212 g. t., b. '73, Detroit, sunk in Straits, '94.
- Barons, Sam'l. H., prop., 33 g. t., later the Florence Yates.
- Barr, tug, in com., '70.
- Barr, H. A., schr., 119 g. t., b. '93, West Bay City, in com.
- Barrett, Ada, tug, 21 g. t., b. '95, Buffalo, in com.
- Barrett, Wm. H., stmr., 118 g. t., b. '74, Grand Rapids, in com.
- Barrie, Commodore, Can. schr., 275 g. t., b. '34, Kingston, wrecked L. Ont., by col., '42.
- Barrington, Can. schr., 81 g. t., b. '87, Shelburne, in com.
- Barry, Jack, schr., 25 t., b. '62, burned Muskegon, '87.
- Baskatongue, Can. schr., '94 g. t., b. '73, Ottawa, in com.
- Bass, Can. schr., 96 g. t., b. '79, Montreal, in com.
- Batchelder, tug, burned Green bay, '90.
- Bate, Harry, Can. prop., 150 n. t., b. '73, Brewers' Mills, in com., formerly the Gatineau.
- Bates, Eli, schr., foundered L. Erie, '71, 9 lives lost.
- Bates, Eveline, schr., 233 g. t., b. '58, Huron, passed out, '97.
- Bates, S., schr., 139 t., b. '57, total loss near Winnetka, '83.
- Bates, Wm., scow, 76 t., in com., '69.
- Baud, C., stcb., 99 g. t., b. '76, in com.
- Bauer, John C., schr., 158 g. t., formerly Planet, b. '55, Black River, O., in com.
- Bavaria, Can. schr., 361 t., ashore L. Ont., '89, 8 lives lost.
- Bavaria, Can. schr., 410 n. t., b. '78, Garden Island, lost Georgian bay, '98.
- Baxter, Edward, Can. scow, 198 g. t., b. '75, Wellandport, in com.
- Baxter, Ellen, schr., 283 t., b. West Squaw, '61, sailed Toledo to Boston, '66.
- Bay City, stmr., 479 t., formerly Forest City, b. Trenton, '51, wrecked at Clay Banks, '62.
- Bay City, schr., 306 g. t., b. '57, Saginaw, in com.
- Bay City, bge., foundered near Erie, '80.
- Bay City, schr., burned Detroit, '69.
- Bay City, prop., 371 g. t., b. '77, Marine City, burned Detroit, '91.
- Bay City, stpd., 65 g. t., b. '87, Bay City, in com.
- Bay Queen, schr., wrecked Port Colborne, '66.
- Bay of Quinte, Can. schr., 200 t., b. Kingston, '53.
- Bay of Quinte, Can. schr., 250 g. t., b. '61, Bay of Quinte.
- Bay of Quinte, schr., wrecked L. Ont., '63.
- Bay State, stmr., 900 t., b. Clayton, '49.
- Bay State, prop., foundered L. Ont., '62, 22 lives lost.
- Bay State, schr., 249 g. t., b. '55, Buffalo, passed out '93.
- Bay State, schr., b. Buffalo, '52.
- Bay State, stpd., 60 g. t., b. '74, Saginaw, in com.
- Bay Trader, Can. schr., 173 g. t., b. '73, St. Williams, in com.
- Bayfield, Can. prop., 221 n. t., b. '64 Buffalo, in com.
- Bayona, slp., b. Conneaut, capsized '46, 3 lives lost.
- B. C. & Co., bge., sunk Saginaw, '70.
- Beach, E. D., stmr., 10 g. t., b. '64, in com.
- Beach, Ed., tug, 10 g. t., b. '70, Troy, N. Y., passed out, '95.
- Beals, E. P., schr., 373 g. t., b. '73, Buffalo, in com.
- Bean, John, Jr., schr., 156 t., sunk Muskegon, '65.
- Beard, James, prop., '87 g. t., formerly Wesley Hawkins, b. '73, Au Sable, Mich., in com.
- Beard, Joshua, Can. schr., 400 g. t., b. '56, Oshawa.
- Bearse, Owen, schr., b. Cleveland, '63, wrecked Atlantic coast, '67.
- Beaubocage, Can., prop., 129 g. t., b. '78, Bobcaygeon, in com.
- Beauport, Can. bge., 400 n. t., b. '73, Quebec, in com.
- Beaver, small armed English slp., b. Detroit about 1762, wrecked at Catfish creek, fourteen miles up Lake Erie, 1763.
- Beaver, b. 1771, lost with crew of seventeen near Sandusky, 1771.
- Beaver, schr., b. Detroit in 1784 for the Lake Superior fur trade.
- Beaver, Can. schr., 200 g. t., b. '48, Kingston, wrecked L. Ont., '61.
- Beaver, Can. scow, 111 g. t., b. '63, Port Robinson, in com.
- Beaver, Can. prop., 18 g. t., b. '83, Gores Landing, in com.
- Beaver, Can. tug, 294 n. t., b. '84, Quebec, in com.
- Beaver, Can. prop., 53 n. t., b. '92, Belleville, in com.
- Beaver, Can. prop., 13 g. t., b. '93, Simcoe, in com.
- Beatrice, Can. prop., 30 g. t., b. '77, Collingwood, in com.
- Beatrice, ferry, burned St. Clair r., '83.
- Beatrice, sly., 9 g. t., b. '88, in com.
- Bebee, Jordan, Jr., 16 g. t., b. '83, Bay City, burned Put-in Bay, '93.
- Beck, Mary, Can. tug, 16 g. t., b. '76, Penetang, broken up '97.
- Becker, Philip, tug, lost L. Ont.
- Becker, R. H., 140 g. t., b. '67, Dover Bay, O., in com.
- Becker, William D., schr., 1,047 g. t., b. '92, Bay City, chartered ocean, '98.
- Beckett, Thos., Can. schr., 151 g. t., b. '81, Hull, in com.
- Beckman, W. R., tug, 12 g. t., b. '82, Erie, in com.
- Beckwith, J. L., prop., 104 g. t., b. '73, Buffalo, in com.
- Bedford, Can. bge., 107 g. t., b. '63, Kingston, in com.
- Bedford, scow, sunk Detroit r., '84.
- Bedford, Mary, Can. bge., 70 g. t., b. '88, Bedford Mills, in com.
- Beers, Alice M., schr., 154 g. t., b. '66, Algonac, in com.
- Beers, A. M., schr., sunk Manistee, '75.
- Behn, J. F., tug, 16 g. t., b. '74, Buffalo, in com.
- Behrman, Agnes, schr., 110 g. t., b. '83, Detroit, passed out '97.



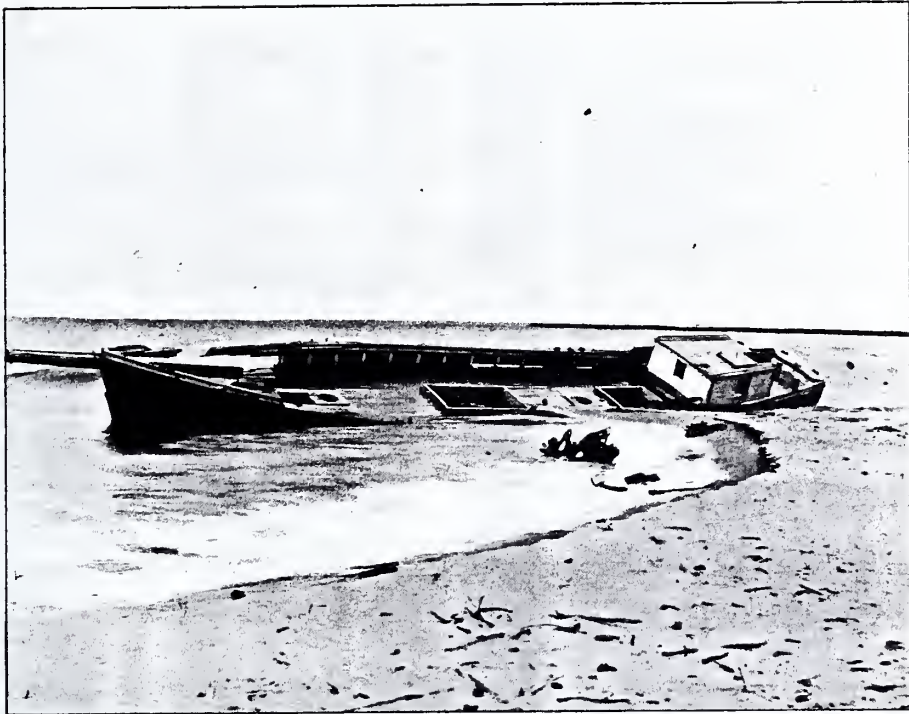
- Behrn, Lena, schr., 33 g. t., b. '86, Grand Haven, in com.
- Belknap, Can. bge., 46 g. t., b. '74, Port Huron, in com.
- Bell, D. V., bge., sunk L. St. Clair, '74.
- Bell, Cora, schr., 268 t., b. '74, Detroit in com.
- Bell, Gracie, schr., 36 g. t., b. '85, Sand Beach, passed out '94.
- Bell, Ida, Can. tug, 7 n. t., b. '90, Clear Creek, in com.
- Bell, Jane, bark, 447 t., b. Detroit, sunk near Chamber's island, '81.
- Bell, Laura, schr., 269 t., b. Toledo, '70.
- Bell, Mary, stmr., 75 t., b. Buffalo, '55.
- Bell, Mary, tug, 39 g. t., b. '70, Buffalo, in com.
- Bell, Mattie C., schr., 769 g. t., b. '82, Saginaw, wrecked, '95.
- Bell, M. L., tug, 84 t., b. '70.
- Bell, Sir Isaac Lothian, s. schr., 3,418 g. t., b. '96, West Bay City, in com.
- Bella, Can. bge., 484 n. t., b. 71, Garden Island, in com.
- Bella Gore, Can. schr., b. '09, York, wrecked.
- Belle, brig, b. before 1850, Conneaut.
- Belle, stmr., b. Buffalo, wrecked Georgian Bay, '52.
- Belle, schr., sunk L. Ont., '55.
- Belle, scow, b. 56, Black River, O.
- Belle, schr., 104 g. t., b. '56, Manitowoc, in com.
- Belle, Can. schr., 101 g. t., b. '57, Oakville, in com.
- Belle, brig, wrecked near Bailey's Harbor, '60.
- Belle, schr., lost Long Point, '64.
- Belle, prop., 109 t., b. '60, burned L. Mich., '69, 2 lives lost.
- Belle, Can. prop., 7 g. t., b. '76, Meaford, in com.
- Belle, tug, 37 g. t., b. '85, Benton Harbor, in com.
- Belle, Can. tug, 23 n. t., b. '96, Port Burwell, in com.
- Belle, Eva, Can. prop., 10 g. t., b. '90, Midland, in com.
- Belle of Epoufette, schr., 11 g. t., b. '97, Epoufette, Mich., in com.
- Bellinger, A. A., tug, 15 g. t., b. '80, Buffalo, in com.
- Belmont, Can. stmr., 139 n. t., b. '41, Montreal, in com., formerly Richelieu.
- Belmont, schr., lost near North Manistee, '56.
- Belmonte, schr., b. Ohio City, '47.
- Beloit, schr., stranded White Lake, '68.
- Belvidere, schr., capsized '56, crew lost.
- Bemis, A. S., tug, 49 t., b. Buffalo, '59, burned near Alpena, '72.
- Benedict, E. G., Can. schr., 154 t., b. '69, stranded Port Stanley, '91.
- Benham, C. E., tug, '95 g. t., formerly E. M. Peck, b. '63, Cleveland, O., in com.
- Ben Hur, schr., 314 g. t., b. '74, Dunville, Ont., passed out, '91.
- Benica, schr., sunk by col. L. Ont., '83.
- Beniteau, Maud, schr., 6 g. t., b. '79, Detroit, in com.
- Bennet, P., Can. schr., '98, g. t., b. '69, Port Rowan, in com.
- Bennett, J. W., tug, 81 g. t., b. '76, Huron, O., in com.
- Bennett, M. A., Can. tug, 53 n. t., b. '80, Port Robinson, in com.
- Bennington, schr., wrecked L. Erie, '51.
- Benson, C. B., schr., 298 g. t., b. '73, Port Clinton, O., lost Gravelly bay, '93, with crew.
- Benson, H., Can. bge., 370 n. t., b. '71, Quebec, in com.
- Benson, H. A., schr., 13 g. t., b. '82, Sebawaing, in com.
- Benson, J. R., Can. bge., 370 t., b. '73, foundered L. Erie, '83, raised, in com.
- Bentley, John, schr., 518 t., sunk Georgian Bay, '86.
- Bentley, J. R., schr., 771 t., b. Fairport, '67.
- Bentley, James R., schr., in com., '68, foundered L. Hur., '78.
- Benton, schr., damaged L. Hur., '49.
- Benton, prop., 304 g. t., b. '67, Buffalo, in com.
- Benton, Col., schr., 209 t., b. Racine, stranded L. Erie, '38.
- Benton, J. J., b. Cleveland, '63.
- Benton, Tom, schr., wrecked near Chicago, '52.
- Beresford, 187 t., Brit. v. L. Ont., '13, 8 guns.
- Berlin, schr., 260 t., b. Milan, '54, wrecked L. Hur., '77, 4 lives lost.
- Bernard, Lotta, stmr., foundered L. Sup., '74.
- Bermuda, schr., 394 t., wrecked L. Sup., '70.
- Bermuda, prop., 1,312 g. t., b. '97, West Bay City, in com.
- Berrien, prop., 114 g. t., b. '64, Detroit, passed out, '95.
- Berriman, Francis, schr., sunk by col. L. Hur., '77.
- Berry, Com. Jack, tug, burned, Duluth, '97.
- Bertha, Can. prop., 16 n. t., b. '91, Kingston, in com.
- Bertha May, Can. prop., 20 g. t., b. '86, Gravenhurst, in com.
- Berthier, Can. stmr., 417 n. t., b. '70, Sorel, in com.
- Bertie, schr., 43 g. t., b. '96, Mt. Clemens, Mich., in com.
- Bertie, sty., 15 g. t., later the Gossoon.
- Bertschy, Jacob, stmr., in com., '72, wrecked off Port Austin reef, '79.
- Berwick, tug, 24 g. t., b. '94, Saugatuck, in com.
- Bessemer, prop., 440 t., b. '75, wrecked L. Sup., '89.
- Bessemer, Sir Henry, prop., s., 4,321 g. t., b. '96, Cleveland, in com.
- Bessie, prop., 89 g. t., b. '80, New Baltimore, Mich., in com.
- Betsey, English slp., b. 1769.
- Betsey, Can. schr., 19 g. t., b. '68, Toronto, in com.
- Betts, Lizzie P., 268 g. t., formerly Miami Belle, b. '56, Toledo, in com.
- Beyer, Prowet, Can. tug, 27 n. t., b. Toronto, in com.
- Bibb, Geo. M., i. U. S. rev. cut., 333 t., went New Orleans '45, returned L. Ont. '81, later the Penta-goet.
- Biddle, Nicholas, schr., passed out.
- Bielman, C. F., prop., 2,056 g. t., b. '92, West Bay City, in com.
- Big B., 60 t., b. Eighteen Mile Creek, '45.
- Big Burlington, 144 t., b. Cleveland, '43.
- Big Z., schr., 120 t., in com. '44, lost near Sheboygan, '59.
- Bigler, J., schr., b. '66, aground at Flats, '79.
- Bigelow, H. P., prop., 46 g. t., b. '93, Baldwinville, N. Y., in com.
- Biggar, W. F., Can. scow, 11 g. t., b. '73, Port Colborne, in com.
- Billingsley, F., Can. schr., 150 g. t., b. '80, Hull, in com.
- Billow, schr., wrecked Long Point, '51.
- Birkhead, L., tug, 33 g. t., b. '83, Toledo, in com.
- Birkhead, P. H., prop., 568 g. t., b. '70, Marine City, in com.
- Bird, Charles E., tug, 14 g. t., b. '80, Saugatuck, passed out, '95.
- Bird, Francis A., tug, 15 g. t., b. '93, Buffalo, in com.
- Birdie, schr., 12 g. t., b. '78, Sheboygan, passed out, '93.
- Birdie, schr., 11 g. t., b. '95, White Lake, Mich., in com.
- Birkhead, Mary, schr., 226 g. t., b. '67, Sandusky, sunk by col., '91.
- Birmingham, schr., 138 t., b. Vermilion, '43, wrecked near Buffalo, '54.
- Bishop, Anna R., schr., 448 g. t., b. '80, in com.
- Bishop, H. B., schr., 264 t., b. Buffalo, '46, wrecked Georgian Bay, '52.
- Bismarck, tug, name changed '84 to Justice Field.
- Bismark, Can. schr., 26 g. t., b. 76, Port Dalhousie, in com.
- Bismark, Can. bge., 365 n. t., b. Port Dalhousie, in com.
- Bissel, Arthur D., stcb., 137 g. t., b. '81, Lockport, N. Y., in com.

- Bissell, George W., schr., 278 g. t., b. '63, Marine City, Mich., in com.
- Bissell, Harvey, schr., 496 g. t., b. '66, Toledo, O., in com.
- Biwabik, schr., 1,401 g. t., b. '94, Marine City, Mich., in com.
- Black Ball, tug, sunk by col., Chicago, '84.
- Black Ball, No. 2, tug, 37 g. t., b. '71, Buffalo, in com.
- Black, Clarence A., s. prop., 4,521 g. t., b. '98, Lorain, in com.
- Black Diamond, bge., 296 g. t., b. '75, Clayton, N. Y., in com.
- Black Diamond, bge., 553 g. t., b. '82, Ludington, in com.
- Black Duck, schr., foundered, '72.
- Black Hawk, schr., capsized L. Erie, '38.
- Black Hawk, stmr., b. Ogdensburg, '34, sold to Canadians and named Dolphin.
- Black Hawk, brig, 384 t., b. Ohio City, '54, sailed Detroit to Liverpool, '58, wrecked Point Betsey, '62.
- Black Hawk, schr., 172 g. t., b. '61, Saginaw, in com.
- Black, J. S., U. S. rev. cut., b. Milan, O., ordered New York, '61.
- Black, L., schr., 70 t., b. Manitowoc, '81.
- Black Maria, bark, wrecked near Chicago, '55.
- Black Rock, prop., 1,646 g. t., b. '97, Port Huron, in com.
- Black Rover, scow, b. '55, Black River, O.
- Black Snake, schr., 21 t., passed out.
- Black Swan, scow, b. '54, Black River, O.
- Black, William, schr., stranded Port Burwell, '54.
- Blade, sloop, 6 g. t., b. '97, in com.
- Blair, C. B., brig, passed out.
- Blaine, James G., schr., 555 g. t., formerly Pensaukee, b. '67, Little Sturgeon, in com.
- Blaine, J. G., prop., 97 g. t., b. '85, Toledo, passed out, '94.
- Blake, E., schr., lost, '71.
- Blake, E., Can. tug, 19 n. t., b. '84, Port Robinson, in com.
- Blake, Edward, Can. schr., 407 n. t., b. '72, Port Burwell, in com., formerly bge.
- Blake, E. R., schr., 201 g. t., b. '67, Port Washington, burned L. Hur., '98.
- Blake, Emma, scow, total wreck, '70.
- Blake, J. W., schr., capsized near Sturgeon Point, '55.
- Blake, Vernie M., schr., 34 g. t., b. '68, Black River, O., passed out, '92.
- Blakely, Minnie, Can. schr., 111 g. t., b. '73, Port Credit, in com.
- Blanchard, B. W., prop., 1,143 g. t., b. '70, Cleveland, in com.
- Blanchard, J. B., Can. schr., 150 g. t., b. '82, Hull, in com.
- Blanchard, Kirk S., stcb., 112 g. t., b. '87, Rochester, in com.
- Blanche, Can. schr., 210 t., lost '88.
- Blandford, Can. stmr., 53 n. t., b. '93, Quebec, in com.
- Blandina, Can. sty., 46 g. t., b. '83, Bronte, in com.
- Blazier, J. S., tug, 88 g. t., formerly H. A. Ballentine, b. '67, East Saginaw, in com.
- Blazing Star, schr., 265 t., b. '73, Manitowoc, wrecked Fisherman's Shoal, '87.
- Blish, E. C., schr., lost Lake Hur., '64, with all hands.
- Bliss, A. T., schr., 437 g. t., b. '81, East Saginaw, in com.
- Blöcker, Emma, tug, 31 g. t., b. '89, Grand Haven, in com.
- Blood, Senator, schr., 230 g. t., b. '63, Oswego, in com.
- Bloom, Harry, prop., 31 g. t., b. '93, Detroit, in com.
- Bloom, Ida H., scow, capsized L. Erie, '64.
- Bloom, Nelson, schr., 549 g. t., b. '63, Cleveland, in com.
- Bloom, Neison, schr., lost '94, L. Mich.
- Bloomer Girl, prop., 95 g. t., b. '94, Ludington, in com.
- Blossom, Lucy A., brig 258 t., b. Conneaut, sunk Detroit r., '51.
- Blossom, Nancy A., brig, 225 t., b. Conneaut, passed out.
- Blue Bell, schr., beached Wind Mill Point, '45.
- Blue Bell, schr., capsized near Chicago, '58.
- Blue Bell, bge., 122 t., b. '67, wrecked Sheboygan, '87.
- Blue Bell, Can. prop., 12 g. t., b. '88, Kingston, in com.
- Blue Lodge, stcb., 40 g. t., b. '87, Defiance, in com.
- Blue Rock, schr., 9 g. t., b. '78, Bay City, passed out, '97.
- Blue Wave, prop., 8 g. t., b. '82, South Haven, passed out, '91.
- Blume, Nelson, schr., 550 g. t., formerly Meteor.
- Bly, Nellie, Can. tug, 13 n. t., b. '94, in com.
- Boale, L. H., tug, total loss South Haven, '72.
- Boalt, Bessie, schr., 173 t., b. Wolf River, '68, total wreck L. Mich., '72.
- Boaz, schr., 127 g. t., b. '69, Sheboygan, in com.
- Bob O'Link, Can. schr., 15 g. t., b. '70, Toronto, in com.
- Bobolink, sloop, 5 g. t., b. '97, Clayton, in com.
- Bock Isolda, schr., 70 g. t., b. '81, Manitowoc, in com.
- Bogart, D. D., schr., 80 t., b. Three Mile Bay, L. Ont., '43, wrecked near Erie, '51.
- Bohemia, schr., wrecked L. Mich., '56.
- Bohemia, Can. stmr., liner in '75.
- Bohemian, Can. stmr., 413 n. t., b. '73, Montreal, in com.
- Bold, Betsey, schr., passed out.
- Bolivar, schr., 46 t., b. Racine, '25, wrecked L. Erie, '39.
- Bolivia, schr., 353 g. t., b. '74, Oswego, in com.
- Bolton, Charles E., tug, 20 g. t., b. '82, Lorain, in com.
- Bolton, Samuel, schr., 330 g. t., b. '67, Bay City, wrecked L. Hur., '93.
- Bon Ami, prop., 226 g. t., b. '94, Saugatuck, in com.
- Bon Voyage, prop., 500 g. t., b. '91, Saugatuck, in com.
- Bond, Hiram R., prop., 230 g. t., b. '88, Milwaukee, in com.
- Bond, Nelson, 22 g. t., b. '91, Algonac, in com.
- Bond, O. M., schr., 299 t., sunk Port Dalhousie, '86.
- Bonesteel, schr., 150 t., b. Milwaukee, '45.
- Bonita, sty., 74 g. t., b. '92, Detroit, in com.
- Bonito, Can. prop., 17 g. t., b. '79, Hull, in com.
- Bonnie Boat, stmr., 125 t., b. Huron, O., '59, wrecked Kincardine, '69.
- Bonnie Doon, abandoned Bois Blanc island, '68.
- Bonnie Maggie, stmr., 125 t., wrecked L. Hur., '69.
- Bonnechere, Can. prop., 13 g. t., b. '93, Simcoe, in com.
- Boody, A., American schr., now the Can. schr. E. A. Fulton.
- Boody, A., schr., 287 g. t., b. '63, Toledo, in com.
- Boone, Daniel, tug, burned Buffalo, '66.
- Booth, Can. prop., 235 g. t., b. '85, North Bay, in com.
- Booth, A., prop., 26 t., sunk L. Sup., '86.
- Booth, J. R., Can. tug, 138 n. t., b. '82, Ottawa, in com.
- Boothe, Maria, schr., b. Buffalo, '55.
- Bortschay, Jacob, prop., 318 t., b. Sheboygan, '67.
- Boscobel, prop., 919 t., b. Chicago, '67, burned St. Clair r., '69, 3 lives lost.
- Boscobel, schr., 503 g. t., b. '76, Algonac, in com.
- Boscobel, prop., 611 g. t., b. '81, Chicago, in com.
- Boston, English v., b. 1764.
- Boston, brig., 165 t., b. Milan, '42.
- Boston, stmr., 775 t., b. Detroit, '45, wrecked at Milwaukee, '46.
- Boston, prop., 259 t., b. Ohio City, '47, sunk by col. L. Ont., '54.
- Boston, schr., 236 t., b. Ashtabula, '61.

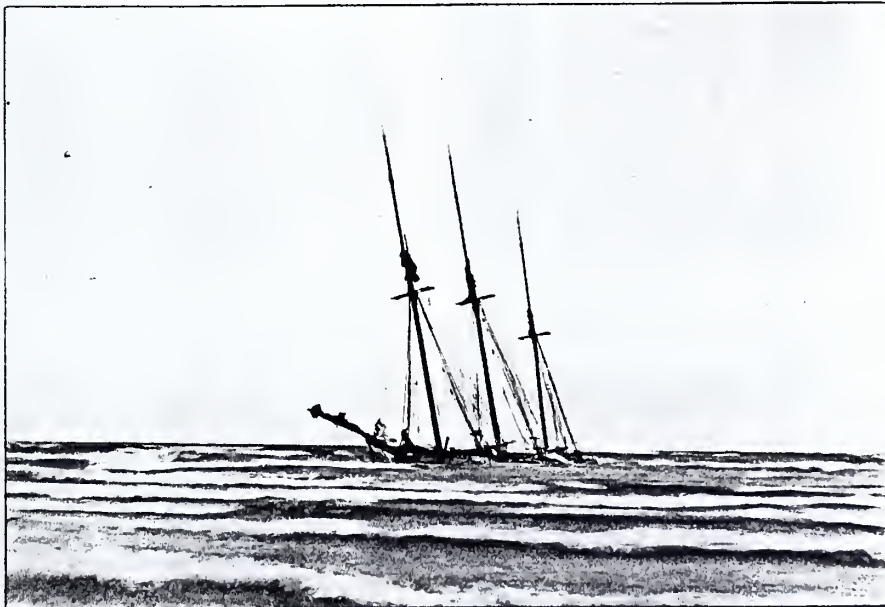


- Boston, i. prop., 1,829 g. t., b. '80, Wyandotte, in com.  
 Boston, sty., 11 g. t., b. '93, Chicago, in com.  
 Boswell, F. J., Can. schr., 153 g. t., b. '80, Hull, in com.  
 Bothnia, Can. prop., 738 n. t., b. '95, Garden Island, in com., formerly the Jack.  
 Bottom, J. W., schr., in com., '49.  
 Bottsford, E., bge., 563 t., b. Saginaw, '82.  
 Bottsford, Ida, tug, b. '66, passed out.  
 Botsford, R., schr., 500 g. t., b. '82, Lorain, in com.  
 Bourgeois, Can. stmr., 106 n. t., b. '92, Sorel, in com.  
 Bourke, Mary N., schr., 920 g. t., b. '89, Baraga, Mich., in com.  
 Boughton, R. H., schr., one of first two vessels through Welland canal, '29.  
 Boutin, N., tug, 47 g. t., b. '82, Buffalo, in com.  
 Bowen, Dennis, Can. tug, now the Nora.  
 Bowen, Erastus, schr., 52 t., stranded Grosse Point, '51.  
 Bowlin, N., stmr., sunk off Washburn, '84.  
 Bowmanville, Can. schr., 400 g. t., b. Bowmanville, wrecked.  
 Boxer, schr., 16 t., passed out.  
 Boyce, G. J., schr., 319 g. t., b. '84, Manitowoc, in com.  
 Boyce, Isabella J., prop., 386 g. t., b. '89, Manitowoc, in com.  
 Boyce, J., schr., burned North Muskegon, '83.  
 Boyce, Jessie L., schr., 196 g. t., formerly Milan, b. '61, Milan, O., in com.  
 Boyce, Mary H., prop., 932 g. t., b. '88, Grand Haven, in com.  
 Boyd, Harry H., tug, 36 g. t., b. '95, Buffalo, in com.  
 Boyd, Robert, tug, 34 g. t., b. '82, Saginaw, in com.  
 Boynton, Can. stmr., wrecked Kingston, '37.  
 Boynton, C. L., tug, 103 g. t., b. '94, Port Huron, Mich., in com.  
 Brace, Can. prop., 9 g. t., b. '84, Hamilton, in com.  
 Brackett, Col., schr., 186 g. t., b. '69, Charlotte, N. Y., lost, '90, L. Huron.  
 Bradbury, Y. M., prop., 445 t., b. Cleveland, '55.  
 Bradley, A., schr., 158 g. t., b. '57, Vermilion, O., in com.  
 Bradley, A. F., 371 t., b. '69, passed out.  
 Bradley, Alva, sch., 934 g. t., b. '70, Cleveland, lost L. Mich., '94.  
 Bradley, Charles H., prop., 804 g. t., b. '90, West Bay City, in com.  
 Bradley, Thos., schr., lost near St. Joe, '56.  
 Bradshaw, Mabel, prop., 332 g. t., b. '89, Benton Harbor, in com.  
 Bradwell, stmr., b. Manitowoc, '98.  
 Bradwell, Hattie, slp., 26 g. t., b. '92, Chicago, in com.  
 Brady, Geo. N., tug, 131 t., b. Detroit, '61.  
 Brady, Gen., stmr., 100 t., b. Detroit, '32, made sail vessel, '44.  
 Brady, George N., tug, 165 g. t., b. '65, Marine City, Mich., passed out, '93.  
 Brainard, Kate, schr., wrecked Kincardine, Ont., '71.  
 Brainard, Katie, schr., 412 g. t., b. '71, Marine City, in com.  
 Brainard, O. V., schr., 90 t., b. Sacket's Harbor, burned L. Ont., '51.  
 Brainard, O. V., schr., wrecked L. Ont., '66.  
 Brake, William, schr., 318 g. t., formerly Gardner, b. '67, Marine City, in com.  
 Braley, bge., wrecked L. Erie, '75.  
 Braman, D. R., wrecked Black River, '70.  
 Braman, R. H., scow, 102 t., in com., '69.  
 Brand, Michael, tug, 34 g. t., b. '78, Chicago, later the Relief.  
 Brandon, Can. schr., 450 t., wrecked '88.  
 Brandon, Jas., No. 7, prop., 51 g. t., b. '79, Lockport, passed out, '91.  
 Brandywine, schr., stranded Buffalo, '37.  
 Brandywine, slp., lost off Barcelona, '46, 3 lives lost.  
 Brant, scow, sunk L. Hur., '59.  
 Brantford, Can. prop., 404 t., b. St. Catharines, '51.  
 Brayman, Waters W., tug, burned Point Pelee, '67, total loss.  
 Brazil, i. prop., 2,187 g. t., b. '90, Buffalo, in com.  
 Brearley, Preston, tug, sunk L. Mich., '69, by col.  
 Breck, J. H., Can., schr., now the H. M. Stanley.  
 Breck, Jessie H., schr., lost near Nine Mile Point, '90.  
 Breck, M. L., Can. schr., 350 n. t., b. '58, Garden Island, in com., formerly the William Penn.  
 Breden, John, schr., 319 g. t., b. '62, Port Dalhousie, in com.  
 Breed, C. G., schr., 451 t., b. Milwaukee, capsized off Point Pelee, '79, several lives lost.  
 Breeze, schr., 100 t., b. Three Mile Bay, L. Ont., '45, wrecked L. Ont., '52.  
 Brenton, schr., 50 g. t., b. '82, Gibraltar, in com.  
 Brewer, W. H., prop., 32 g. t., b. '82, Charlotte, in com.  
 Brewster, William, schr., 70 t., b. L. Sup., '38, run over rapids same year, sunk Fairport, '52, seven lives lost.  
 Bride, schr., 800 t., b. Detroit, '46.  
 Bridge, H. P., bark, 400 t., b. Detroit, '64, lost L. Hur., '69.  
 Bridget, schr., lost L. Mich., '35, 16 lives lost.  
 Bridget, Can. schr., wrecked Long Point, '62.  
 Bridgewater, bark, b. '66, converted into schr., '69, stranded Waughashance, '75.  
 Brigham, W. W., schr., b. '48, lost L. Mich., '84.  
 Bright, John, Can. schr., 96 g. t., b. '70, Ottawa, in com.  
 Brightie, schr., 600 g. t., b. '68, Cleveland, in com.  
 Brilliant, schr., lost L. Mich., '57.  
 Brilliant, prop., 67 g. t., b. '68, Philadelphia, in com.  
 Brink, Ben, schr., 317 g. t., b. '88, Detroit, in com.  
 Brink, Ben, bge., wrecked Eagle Harbor, '90.  
 Briscoe, Jennie, stm. bge., sunk by col., '70, near Grosse Isle.  
 Bristol, Can. stmr., b. '62.  
 Britain, schr., lost off Long Point, '55.  
 Britannia, Can. schr., 120 t., b. York about '19, foundered L. Ont., '41.  
 Britannia, Can. schr., 200 g. t., b. '33, Kingston, wrecked Erie, '70.  
 Britannic, prop., 1,121 g. t., b. '88, West Bay City, lost L. Mich., '94.  
 British Empire, Can. stmr., b. Long Island, Ont., '46, sunk St. Lawrence r., '56.  
 British Lion, English bark, 322 t., arrived Detroit, '62, from England.  
 British Lion, Can. scow, 80 g. t., b. '83, Pike Creek, in com.  
 British Queen, Can. stmr., b. Long Island, L. Ont., '46.  
 British Queen, Can. schr., 117 g. t., b. '63, Marysburg, in com.  
 Briton, s. prop., 2,348 g. t., b. '91, Cleveland, in com.  
 Britton, L. B., prop., lost L. Mich., '61.  
 Britomart, Can. gunboat, b. England.  
 Brittain, R. C., prop., 200 g. t., b. '77, Saugatuck, in com.  
 Brock, Sir Isaac, schr., 70 t., in com., '41.  
 Brockville, Can. stmr., 350 g. t., b. '33, Brockville.  
 Brockville, prop., 398 t., wrecked L. Mich., '65, 3 lives lost.  
 Brockway, Geo. E., tug, 164 g. t., b. '67, Port Huron, in com.  
 Bronson, schr., 300 t., lost, '88.  
 Bronson, Alvin, schr., sunk Oswego, '65.  
 Bronson, Eton, schr., b. Three Mile Bay, L. Ont., '35.





SCHOONER DART ON BEACH NEAR MANITOWOC HARBOR, LAKE MICHIGAN.



SCHOONER LOOKOUT ASHORE AND ABANDONED ON TWO RIVERS POINT.



- Bronson, E. H., Can. schr., 158 g. t., b. '78, Hull, in com.
- Bronson, H. F., Can. tug, 102 n. t., b. '70, Montreal, in com.
- Bronson, Tracy J., schr., 277 g. t., b. '57, Cleveland, in com.
- Brooklyn, schr., 319 g. t., b. '64, Clayton, in com.
- Brooklyn, stmr., b. Cleveland, '66, boiler exploded Detroit, '74, 13 lives lost, stmr. sank.
- Brooks, Alice, Can. prop., 17 g. t., b. '82, Port Elgin, in com.
- Brooks, H. G., tug, 13 g. t., b. '88, Buffalo, in com.
- Brooks, James N., tug, 10 g. t., b. '72, Milwaukee, in com.
- Brooks, J. W., prop., 312 t., b. Detroit, '51, foundered L. Ont., '56, 22 lives lost.
- Brooks, LeRoy, prop., 41 g. t., b. '91, Toledo, in com.
- Brothers, The, Can. schr., 100 t., b. York, '20.
- Brothers, stmr., 150 t., b. Chatham, Ont., '39, sunk in River Thames, '56.
- Brothers, stmr., 220 t., burned '39.
- Brothers, schr., wrecked L. Ont., '45.
- Brothers, Can. schr., 64 t., b. Goderich, wrecked.
- Brothers, Can. schr., 32 g. t., b. '69, Bronte, in com.
- Brothers, Can. schr., 14 g. t., b. '77, Ashfield, in com.
- Brothers, Can. tug, 18 g. t., b. '86, Port Arthur, in com.
- Brothers, Can. stmr., 244 n. t., b. '80, St. Nicholas, in com.
- Brothers, tug, 24 g. t., b. '64, Brooklyn, N. Y., passed out, '95.
- Brower, Henry F., tug, 30 g. t., b. '82, Grand Haven, in com.
- Brown, A. J., schr., wrecked with 2 lives, L. Ont., '56.
- Brown, A. V., U. S. rev. cut., b. Milan, O., ordered New York, '61.
- Brown, Fayette, schr., 553 g. t., b. Cleveland, '68, sunk by col., '91.
- Brown, Fayette, prop., c. 2,080 g. t., b. '87, Wyandotte, in com.
- Brown, Frank, scow, sunk, '61.
- Brown, Gen., schr., 31 t., passed out.
- Brown, Harvey H., schr., 834 g. t., b. '73, Port Huron, chartered for ocean service, '98, wrecked coast of Maine.
- Brown, Harvey H., prop., s., 2,674 g. t., b. '94, Wyandotte, in com.
- Brown, Ida May, schr., 20 g. t., b. '84, Charlevoix, wrecked L. Mich., '95.
- Brown, J. W., schr., 239 t., b. Conneaut, '47.
- Brown, Mary, schr., 291 t., b. Buffalo, '61.
- Brown, Nellie, schr., capsized, '70, near Sacket's Harbor.
- Brown, O. W., bark, in com., '61.
- Brown, R. H., Can. schr., 51 g. t., b. '82, Marine City, in com.
- Brown, Tom, tug, 38 g. t., b. '70, Chicago, in com.
- Brown, William H., tug, 43 g. t., b. '68, Grand Haven, passed out, '95.
- Brown, William H., prop., 470 t., b. '97, West Bay City, sold U. S. gov., '98, became Piscataqua.
- Brown, W. L., prop., 225 t., sunk off Peshtigo, '86.
- Brown, W. O., schr., 400 t., b. Buffalo, sunk L. Erieby, col., '65.
- Brown, Willie, tug, 19 g. t., b. '71, Buffalo, in com.
- Browne, Belle, sch., 217 g. t., b. '73, Chicago, in com.
- Brownville, stmr., b. '33, Black river, L. Ont., burned St. Lawrence river, rebuilt and name changed to William Avery, dismantled, '35.
- Bruce, stmr., 100 t., b. Goderich, '62, broken up.
- Bruce, Can. tug, 30 n. t., b. '82, Thorold, in com.
- Bruce, tug, 50 g. t., b. '83, Grand Haven, in com.
- Bruce, B. F., prop., burned L. Erie, '62.
- Bruce, Benj. F., schr., 729 g. t., b. '73, East Saginaw, in com.
- Bruce, B. F., tug, 35 g. t., b. '73, Buffalo, in com.
- Bruce, E. K., schr., passed out.
- Bruce, Frank, schr., b. '66.
- Bruce, Kate L., schr., b. Manitowoc, '72, foundered L. Hur., '77 with all hands.
- Bruce Mines, stmr., foundered L. Hur., '54.
- Bruce, Robert, schr., lost L. Ont., with all on board, '35.
- Bruce, Robert, Can. schr., lost L. Erie, '56.
- Bruin, Can. scow, 104 g. t., b. '81, Gravenhurst, in com.
- Brunette, schr., 738 g. t., b. '71, Gibraltar, chartered for ocean, '98.
- Brunette, M., prop., 65 g. t., b. '81, Fort Howard, passed out, '97.
- Bruno, prop., wrecked Marquette reef, '90.
- Bruno, H. M., tug, 12 g. t., b. '85, Saginaw, in com.
- Brunswick, English v., b. 1767.
- Brunswick, prop., 512 t., b. Buffalo, '53, foundered on L. Mich., '56, one life lost.
- Brunswick, i. steam bge., b. Detroit, '81, sunk by col., '81, off Dunkirk, 3 lives lost.
- Brush, E. A. stmr., 35 t., b. Detroit, '64.
- Brydges, C. J., Can. tug, 60 n. t., b. '74, Buffalo, in com.
- Bucephalus, prop., sunk Saginaw bay, '54, 10 lives lost.
- Buchanan, Isaac, schr., burned Port Stanley, '57.
- Buchanan, James, sty., 32 g. t., b. '86, in com.
- Buckeye, schr., 127 t., b. Sandusky, '41.
- Buckeye, bge., burned Georgian Bay, '85.
- Buckeye, stmr., sunk St. Lawrence r., '65.
- Buckeye Belle, sty., 10 g. t., b. '95, Toledo.
- Buckeye State, bark, b. '52, Black River, O., wrecked Milwaukee, '52.
- Buckeye State, stmr., 1,274 t., b. Cleveland, '51, burned Buffalo, dismantled, '57.
- Buckeye State, schr., 518 g. t., b. '73, Saginaw, in com.
- Buckhout, B. B., schr., 351 g. t., b. '73, Saginaw, in com.
- Buckingham, schr., sunk Saginaw bay, '70.
- Buckingham, A., schr., ashore Long Point, '54.
- Buckley, Edward, prop., 414 g. t., b. '91, Manitowoc, in com.
- Buckley, Wm., schr., 112 t., b. Point Peninsula, L. Ont. '34, sunk by col., '54.
- Buckly, Jas., Can. bge., 557 n. t., b. '84, Quebec, in com.
- Bucknor, W. G., schr., 107 t., lost L. Mich., '48.
- Buell, schr., 192 t., b. '57, ashore L. Ont., '86.
- Buell, Chas. C., schr., 192 g. t., formerly Erie Queen, b. '74, Port Rowan, Ont., passed out, '97.
- Buell, F. R., prop., 1,438 g. t., b. '88, Mt. Clemens, in com.
- Buena, sty., 16 g. t., b. '92, Benton Harbor, in com.
- Buena Vista, schr., 174 t., b. '47, wrecked L. Mich., '75.
- Buena Vista, stmr., first stmr. in Saginaw river.
- Bues, H. F., tug, 24 g. t., b. '73, Milwaukee, in com.
- Buffalo, English v. on L. Ont. in 1793.
- Buffalo, schr., 161 t., b. Huron, '32, sunk Niagara r., '39.
- Buffalo, stmr., 613 t., b. Buffalo, '38, made a bark in '48, lost L. Mich.
- Buffalo, slp., 30 t., b. New Buffalo, '45.
- Buffalo, brig, b. before '48, total loss Grand Haven, '59.
- Buffalo, prop., 689 t., b. Buffalo, '56, condemned, '70.
- Buffalo, schr., wrecked Long Point, '52, 6 lives lost.
- Buffalo, Can. scow, 88 g. t., b. '65, Port Robinson, in com.
- Buffalo, prop., 1,763 g. t., b. '78, Cleveland, in com.
- Buffalo, tug, 60 g. t., b. '87, Buffalo, in com.
- Buffalo, bge., 308 g. t., b. '90, in com.
- Buffalo Packet, schr., 30 t., passed out.



- Bugbee, Sarah, schr., 160 t., b. Silver Creek, '41.  
 Bulgaria, prop., 1,889 g. t., b. '87, West Bay City, in com.  
 Bull, Daniel, stmr., passed out.  
 Bullock, L. D., Can. schr., 241 n. t., b. '74, Mill Point, in com.  
 Bully, Kate, schr., abandoned L. Mich., '70.  
 Bunker Hill, stmr., 457 t., b. Black River, O., '37, burned Tonawanda, '57.  
 Burch, A. W., sty., 38 g. t., b. '82, Jamestown, in com.  
 Burchard, Sardis, wrecked L. Hur., '70.  
 Burger, H. B., schr., 181 t., b. '75, total wreck L. Mich., '83.  
 Burgoyne, schr., in com., '68.  
 Burke, Harry, schr., 11 g. t., b. '79, in com.  
 Burlington, Can. schr., b. Kingston, '16.  
 Burlington, Can. stmr., 150 g. t., b. '37, Oakville, burned Toronto, '41.  
 Burlington brig, 117 t., b. Cleveland, '42, wrecked at Port Bruce, '54.  
 Burlington, prop., 384 t., b. Buffalo, '57.  
 Burlington, prop., 276 g. t., b. '79, West Bay City, burned Weldrum bay, '95.  
 Burnham, George, prop., 338 g. t., b. '80, Green Bay, in com.  
 Burns, James, tug, 22 g. t., b. '93, Buffalo, in com.  
 Burns, Robert, 307 t., last full-rigged brig on lakes, lost in the Straits with 10 souls in '69.  
 Burnside, Gen., tug, on rivers, '68.  
 Burnside, Gen., schr., 307 g. t., b. '62, Wolf Island, Ont., sunk L. Erie, '92.  
 Burroughs, B. T., steam bge., burned near Chicago, '81.  
 Burroughs, Geo. T., prop., 130 g. t., Chicago, in com.  
 Burrows, Ella, stmr., in com., '59.  
 Burstall, J., Can. schr., 152 g. t., b. '80, Hull, in com.  
 Burt, John, schr., 348 g. t., b. '71, Detroit, lost L. Ont., '92, 2 lives lost.  
 Burt, Wells, schr., 756 t., b. '73, wrecked off Evanston, '83, crew of 10 lost.  
 Burt, Wellington R., stmr., 253 g. t., b. '77, Saginaw, in com.  
 Burton, Can. schr., sunk Buffalo, '59.  
 Burton, schr., 16 g. t., b. '91, Onekama, Mich., passed out, '96.  
 Burton, A., tug, 25 g. t., b. '71, Chicago, passed out, '93.  
 Burton, Charles A., schr., 514 g. t., b. '73, Bangor, Mich., in com.  
 Burton, F. H., Can. schr., 195 n. t., b. '54, Dundas, in com., formerly the Great Western.  
 Burton, Ida, prop., 42 g. t., b. '73, Rockwood, Mich., in com.  
 Burton, Lomie A., schr., 204 g. t., b. '73, Chicago, in com.  
 Burton, R. A., Can. tug, in com.  
 Burton, R. A., bge., b. Buffalo, '98.  
 Burton, S. S., tug, 33 g. t., b. '88, Erie, in com.  
 Buscoe, Jennie, stmr., 83 t., b. Detroit, '71.  
 Business, prop., 986 g. t., b. '81, Milwaukee, in com.  
 Butcher Boy, schr., partially burned in Chicago fire, '71.  
 Butcher Boy, bark, lost, '72.  
 Butcher Boy, schr., 359 g. t., b. '68, Depere, Wis., in com.  
 Butcher Boy, Can. slp., 146 g. t., b. '79, West Bay City, in com.  
 Butler, Frank S., tug, 39 g. t., b. '65, Chicago, in com.  
 Butman, Myron, schr., 424 g. t., b. '85, Gibraltar, in com.  
 Butterfield, Justin, schr., 43 t., passed out.  
 Butters, Marshall F., prop., 376 g. t., b. '82, Milwaukee, in com.  
 Buttironi, Kate, prop., 865 g. t., b. '81, Marine City, in com.  
 Butties, schr., sunk, Detroit, '54.  
 Butts, L. C., No. 1, wrecked L. Hur., '66.  
 Butts, L. C., schr., 769 g. t., b. '72, South Saginaw, lost L. Mich., '91.  
 By, Colonel, Can. tug, 20 n. t., b. '81, Ogdensburg, in com.  
 By, John, Can. steam., 100 t., b. Kingston, '32.  
 Byers, James, tug, 54 g. t., b. '88, Buffalo, in com.  
 Byron, schr., 180 t., sunk by col. L. Mich., '67.  
 Bytown, Can. schr., 150 g. t., b. '35, Kingston, wrecked.  
 Cadet, schr., 72 t., b. Cleveland, '45, foundered L. Erie, '62, 6 lives lost.  
 Cadet, brig, b. Ashtabula, '47.  
 Cadillac, prop., s., 1,264 g. t., b. '92, Cleveland, in com.  
 Cahoon, Thomas H., schr., 431 g. t., b. '81, Saginaw, in com.  
 Cain, Tubal, bark, b. '66, passed out.  
 Caine, Hugh, scow, sunk Cleveland, '75.  
 Cairo, schr., 355 t., b. Buffalo, '54, lost L. Mich., '63.  
 Calabria, prop., sunk Port Maitland, L. Erie, '76.  
 Calcutta, schr., lost L. Mich., '61.  
 Calcutta, schr., ashore L. Mich., '68.  
 Caldwell, English v. on L. Ont. in 1793.  
 Caldwell, S. D., prop., 757 t., b. Cleveland, '62.  
 Caledonia, Can. armed brig, 86 t., b. Amherstburg by Can. gov. 1807, captured near Fort Erie, 1812, by Lieut. Elliott, became one of Perry's fleet, afterward sold and renamed Gen. Wayne, broken up at Erie.  
 Caledonia, Can. schr., 129 g. t., b. '42, Port Credit, in com.  
 Caledonia, schr., b. '42, rebuilt Racine '85.  
 Caledonia, schr., wrecked L. Erie, '51.  
 Caledonia, schr., b. Cleveland, lost with 6 lives, L. Mich., '56.  
 Caledonia, schr., wrecked L. Mich., '58.  
 Caledonia, Can. schr., 52 g. t., b. '61, Saugeen, in com.  
 Caledonia, prop., 1,847 g. t., formerly Wm. B. Morley, b. '88, Marine City, in com.  
 Calhoon, T. H., bge., 431 t., b. Saginaw, '82.  
 California, prop., 420 t., b. Buffalo, '47, wrecked L. Erie, '62.  
 California, schr., wrecked near Barcelona '51.  
 California, schr., lost L. Erie, '59.  
 California, Can. prop., 586 t., b. '73, wrecked L. Mich., '87, 9 lives lost.  
 California, prop., 716 g. t., later the Edward S. Pease.  
 Calkins, Bertie, sch., 256 g. t., b. '74, Two Rivers, in com.  
 Callister, J. W., tug, 36 g. t., b. '90, Grand Haven, in com.  
 Calumet, tug, 50 g. t., b. '83, Chicago, in com.  
 Calumet, Can. schr., 154 g. t., b. '89, Grenville, in com.  
 Calumet, stmr., lost '89, L. Mich.  
 Calumet, tug, 63 g. t., b. '92, Milwaukee, in com.  
 Calumet, sty., 35 g. t., formerly Lancet.  
 Calvin, D. D., schr., b. Three Mile Bay, L. Ont., '42.  
 Calvin, D. D., Can. prop., 813 n. t., b. '83, Garden Island, in com.  
 Calvin, H., brig, 144 t., b. Buffalo.  
 Calvin, H. A., Can. tug, 309 g. t., b. '68, Garden Island, in com.  
 Calvin, L. E., schr., 311 t., sunk L. Ont., '69.  
 Cambria, Can. prop., 404 t., b. Owen Sound, '78.  
 Cambria, Can. stmr., 404 n. t., b. '77, Port Levis, in com.  
 Cambria, schr., sunk Ashtabula, '51.  
 Cambria, prop., 1,878 g. t., b. '87, Cleveland, O., in com.  
 Cambria, Can. slp., 987 g. t., b. '87, Levis, in com.  
 Cambria, sty., 48 g. t., b. '94, Oshkosh, in com.

- Cambridge, schr., b. Three Mile Bay, L. Ont., '43.  
 Cambridge, schr., 100 t., b. Monroe, dismasted L. Erie, '47.  
 Caniden, Can. armed v., 100 t., b. '04, 10 guns.  
 Camden, schr., 694 g. t., b. '72, Cleveland, chartered ocean, '98.  
 Camelia, schr., 10 g. t., b. '79, in com.  
 Cameron, Carrie, stcb., 124 g. t., b. '80, Irving, N. Y., passed out, '91.  
 Cameron, M. C., schr., in com., '78.  
 Camila, Can. prop., 54 g. t., b. '90, Roaches Point, in com.  
 Camp, Col., schr., sunk by col., L. Mich., '56.  
 Camp, Myrtle, schr., 49 g. t., b. '92, Manitowoc, in com.  
 Camp, T. H., tug, 58 g. t., b. '76, Cape Vincent, in com.  
 Campana, Can. stmr., 1,287 t., b. Glasgow, '73.  
 Campbell, Alice M., tug., 30 g. t., b. '73, Muskegon, in com.  
 Campbell, Ben., prop., 59 g. t., b. '94, Charlevoix, in com.  
 Campbell, Colin, prop., 373 g. t., b. '69, Gibraltar, Mich., in com.  
 Campbell, Fanny, Can. schr., 404 n. t., b. '68, St. Catharines, in com.  
 Campbell, Gordon, prop., 1,101 g. t., b. '71, Detroit, in com.  
 Campbell, Pearl B., tug, 22 g. t., b. '83, Saugatuck, foundered with crew L. Sup., '95.  
 Campbell, P. M., Can. prop., 49 g. t., b. '89, Collingwood, in com.  
 Campbell, Ralph, schr., 226 g. t., b. '55, Cleveland, in com.  
 Campbell, Robert B., schr., in com., '68, ashore L. Mich., '74.  
 Canada, Can. stmr., 250 t., b. Rouge river, '26, wrecked near Oswego.  
 Canada, Can. schr., 450 g. t., b. '41, Prescott, tow boat.  
 Canada, stmr., 800 t., b. Chippewa, '46, made a bark, and lost L. Mich., '55.  
 Canada, Can. schr., 700 g. t., b. '54, Niagara.  
 Canada, stmr., 143 t., b. Detroit, '58, wrecked Bar Point, '65.  
 Canada, schr., 477 t., b. St. Catharines, '61.  
 Canada, Can. stmr., 790 n. t., b. '70, Sorel, in com.  
 Canada, Can. stmr., 392 g. t., b. '72, Hamilton, burned, '92, re-built, '93.  
 Canada, Can. bark, burned near Quebec, '73.  
 Canada, schr., wrecked off Colchester reef, '82.  
 Canada, prop., sunk near Rockport, '83.  
 Canada, schr., 338 g. t., later the Schilde.  
 Canada, bark, formerly a passenger stmr., lost near Chicago.  
 Canadian, Can. schr., 70 g. t., b. '28, York.  
 Canadian, schr., foundered L. Erie, '56, 11 lives lost.  
 Canadian, stmr., 389 t., b. Chatham, '53, broken up, '68.  
 Canadian, Can. stmr., 230 t., b. Toronto, '82.  
 Canadian, schr., 17 g. t., b. '89, Bay City, passed out, '97.  
 Canadian, Can. prop., 20 n. t., b. Sorel, in com.  
 Canadian, Can. stmr., now the Can. stmr. Thistle.  
 Canadian Atlantic Transfer, Can. prop., 619 g. t., b. '84, Contreau Landing, in com.  
 Canapus, brig., 386 t., sunk L. Erie, by col., '65.  
 Canastota, prop., 51 g. t., b. '88, Canastota, passed out, '91.  
 Canestoga, prop., 1,726 g. t., b. '78, Cleveland, passed out, '91.  
 Canfield, Frank, tug, 48 g. t., b. '75, Manistee, in com.  
 Canfield, M. L., schr., foundered off Bar Point, '81.  
 Canisteo, prop., about 600 t., b. Buffalo, '62, sunk L. Mich., '80.  
 Canisteo, prop., 595 g. t., b. '86, Mt. Clemens, in com.  
 Canning, George, Can. schr., 80 g. t., b. '28, York.  
 Cannington, schr., aground Point Pelee, '62.  
 Canton, Can. prop., 350 g. t., b. '64, Montreal.  
 Canton, brig., later the Frontier City.  
 Canton, schr., 320 g. t., formerly China, b. '73, Trenton, in com.  
 Cap Blanc Boy, Can. tug, 19 n. t., b. '81, Quebec, in com.  
 Cape Horn, schr., 202 g. t., b. '57, Huron, in com.  
 Capella, schr., 24 g. t., b. '59, Algoma, passed out, '95.  
 Capital, Can. schr., 103 g. t., b. '67, Ottawa, in com.  
 Caponaning, Can. prop., 88 g. t., b. '88, French River, in com.  
 Caprice, sty., 20 g. t., formerly Henry Douglas, b. '85, New York, passed out, '96.  
 Capron, M., schr., 169 g. t., b. '75, Conneaut, O., in com.  
 Car of Commerce, Can. gunboat, b. '15, Montreal, broken up.  
 Carbonate, schr., 94 g. t., b. '96, Buffalo, in com.  
 Cardington, M. D., schr., sunk off Au Sable, '73.  
 Card, J. F., schr., 276 g. t., b. '64, Vermilion, O., in com.  
 Carey, Lyman, schr., 396 t., b. Toledo, '67.  
 Caribou, Can. prop., 133 n. t., b. '88, Montreal, in com.  
 Carkin, W. S., tug, 15 t., b. '75, wrecked L. Hur., '87.  
 Carkin, W. S., tug, 64 g. t., b. '88, Saginaw, in com.  
 Carl, tug, 33 g. t., b. '89, Milwaukee, in com.  
 Carlton, Can. prop., 8 g. t., b. '78, Westport, in com.  
 Carleton, slp., 30 g. t., b. '83, Cape Vincent, in com.  
 Carleton, Can. prop., 68 g. t., b. '93, Carleton Place, in com.  
 Carlingford, schr., 630 t., b. Port Huron, '69, sunk by col. L. Erie, '81.  
 Carlyle, Can. prop., 128 g. t., b. '70, Bedford Mills, in com.  
 Carmona, Can. stmr., 524 n. t., formerly Manitoba, b. '71, Port Robinson, in com.  
 Carmona, Can. prop., 75 n. t., b. '90, Sorel, in com., formerly Dan.  
 Carnegie, Andrew, prop., c., 4,300 g. t., b. '96, Cleveland, in com.  
 Carney, Fred, schr., 361 g. t., b. '83, Milwaukee, in com.  
 Carney, Richard J., schr., 397 g. t., b. '73, wrecked Shelldrake, '95.  
 Carolina, Can. stmr., 1,075 n. t., b. '77, Wilmington, Del., in com.  
 Caroline, stmr., 80 t., b. Charleston, S. C., '22, captured, burned and sent over Niagara Falls in '37.  
 Caroline, Can. schr., 75 g. t., b. '25, Kingston.  
 Caroline, schr., capsized near the Ducks, '32.  
 Caroline, stmr., 46 t., b. Ogdensburg, '24.  
 Caroline, schr., 50 g. t., b. Perrysburg, O.  
 Caroline, brig, sold London, Eng., '60.  
 Carpenter, A. A., tug, 38 g. t., b. '80, Buffalo, in com.  
 Carpenter, A. A., schr., 540 g. t., b. '81, Manitowoc, in com.  
 Carpenter, George, schr., 10 g. t., b. '64, Bay City, passed out, '93.  
 Carpenter, O. O., prop., 364 g. t., b. '91, Port Huron, in com.  
 Carr, Honora, schr., 107 t., formerly Canadian schr. Maple Leaf, foundered L. Erie, '85.  
 Carrie L., schr., 9 g. t., b. '95, Port Clinton, in com.  
 Carriella, Can. prop., 35 g. t., b. '69, Barrie, in com.  
 Carrier, schr., 187 g. t., b. '65, Marine City, in com.  
 Carrier, tug, 21 g. t., b. '81, Buffalo, burned West Superior, '91.  
 Carrier, schr., sunk L. Mich., '87.  
 Carrier Dove, schr., lost L. Ont., '64.  
 Carrington, schr., sunk Green bay, '70.  
 Carrington, tug, burned Keweenaw bay, '85.



- Carrington, s. schr., 3,180 g. t., b. '97, South Chicago, in com.
- Carrington, E. M., schr., b. '66.
- Carrington, E. T., tug, 58 g. t., b. '76, Bangor, Mich., in com.
- Carrington, M. D., tug, 64 g. t., b. '75, Buffalo, in com.
- Carroll, Charles, stmr., built South Harbor, N. Y., '34, rebuilt at Sacket's Harbor, name changed to America.
- Carroll, Maggie, tug, 15 g. t., b. '83, Marquette, burned West Sup., '93.
- Carter, Clara M., tug, b. Port Colborne, '69.
- Carter, W. J., prop., 235 g. t., b. '86, Milwaukee, in com.
- Carter, Libbie, schr., 33 g. t., b. '82, Benton Harbor, in com.
- Carthaginian, schr., 374 t., lost L. Ont., '67.
- Cartier, Can. tug, 115 n. t., b. '94, Sorel, in com.
- Cartier, J., prop., 60 t., b. Detroit, '70.
- Cartier, Jacques, Can. stmr., sunk by col., St. Lawrence r., '60.
- Cartier, Jacques, Can. stmr., 180 n. t., b. '88, Port Levis, in com.
- Carver, David, schr., probably first Chicago lumber boat, brought lumber cargo '33 from St. Joseph.
- Carveth, Flora, Can. schr., 240 n. t., b. '73, Mill Point, in com.
- Carvoy, brig, 204 t., b. Detroit.
- Cascade, schr., 226 g. t., b. '53, Black River, O., in com.
- Cascade, tug, 77 g. t., b. '92, Buffalo, in com.
- Cascade, tug, 72 g. t., b. '95, Buffalo, in com.
- Case, Belle, Can. schr., 37 g. t., b. '64, Marysburg, in com.
- Case, G. M., 327 t., foundered L. Erie, '86, 3 lives lost.
- Case, J. I., schr., 827 g. t., b. '74, Manitowoc, in com.
- Case, Lydia, schr., 326 t., b. Racine, lost '72.
- Case, Reed, schr., 330 t., b. '69, lost '88.
- Case, William, schr., 266 g. t., b. '55, Cleveland, in com.
- Casey, Lyman, schr., 291 g. t., b. '67, Toledo, in com.
- Cashier, prop., in com., '73.
- Caspian, stmr., 1,050 t., b. Newport, '51, wrecked Cleveland pier, '52.
- Cass, Gov., schr., 30 t., in com., '32.
- Cass, Lewis, brig, 191 t., b. Buffalo, '47, wrecked at Conneaut, '54, wrecked Bailey's Harbor, '65.
- Castalia, brig, 242 t., b. Sandusky, '47, wrecked Georgian Bay, '71.
- Castalia, prop., c., 2,512 g. t., b. '90, Cleve and, in com.
- Castle, Chas., tug, in com., '73.
- Castle, Rothesay, Can. stmr., 400 t., b. Glasgow, '64.
- Castle, Rothesay (2nd), Can. stmr., 450 t., b. Niagara, '75.
- Castle, W. B., schr., abandoned at sea, '61.
- Castle, W. B., tug, 173 g. t., b. '62, Cleveland, in com.
- Caston, brig, damaged by collision, '55.
- Castor, Can. prop., 54 g. t., b. '81, Aylmer, in com.
- Catacraft, stmr., 577 t., b. Clayton, '37.
- Catacraft, prop., sunk L. Mich., '55.
- Catacraft, schr., sunk by col., L. Erie, '57.
- Catacraft, prop., burned L. Erie, with loss of 4 lives, '61.
- Catacraft, Can. schr., 210 n. t., b. '74, Robinsons Mills, in com.
- Catacraft, tug, 130 g. t., b. '89, Sheboygan, in com.
- Cataraqui, Can. schr., 350 t., sailed Kingston to Liverpool, '54.
- Cataraqui, schr., sank L. Ont., '64.
- Catchpole, schr., stranded Long Point, '58.
- Cathcart, Earl, Can. v., 363 t., b. Malden, '46.
- Catherine, schr., 94 t., b. Black Rock about 1803, bought by U. S. govt., renamed the Somers, one of Perry's fleet.
- Catherine, Can. schr., b. May, 1809, sold to Erie vessel-men, renamed Salina, captured at Mackinaw June, '12, by British, caught in ice and abandoned, drifted down lake and burned near Erie.
- Catherine, Can. schr., 97 g. t., b. '57, Amherst Island, in com.
- Catherine, sty., 47 g. t., b. '92, Detroit, in com.
- Catherine, C., sty., 83 g. t., b. '93, in Wyandotte, in com.
- Catlin, E. S., 372 t., b. '69.
- Cato, bge., sunk St. Lawrence r., '61.
- Cattaraugus, schr., foundered L. Ont., '64.
- Cavalier, Can. bge., 366 n. t., b. '67, Quebec, in com.
- Cayley, Wm., schr., 140 t., b. Chippewa, '40.
- Cavuga, schr., 60 t., b. Kenosha, wrecked L. Ont., '54.
- Cayuga, schr., 360 t., b. Garden Island, '70.
- Cayuga, tug, 27 g. t., b. '72, Buffalo, in com.
- Cayuga, i. prop. 2,669 g. t., b. '89, Cleveland, sunk by col. Skillagalee, '95.
- Cecebe, Can. prop., 11 g. t., b. '86, Burke Falls, in com.
- Cecelia, Can. schr., 298 t., b. '65, Pt. Dalhousie, wrecked L. Sup., '83.
- Cecelia, bark, sunk by col. L. Erie, '73.
- Cecelia, schr., 175 t., ashore Jacksonport, '85.
- Cecelia, Can. schr., 290 g. t., b. '86, Port Dalhousie, in com.
- Cecelia B., sty., 11 g. t., b. '95, Superior, in com.
- Celeste, schr., ashore Barcelona, '40.
- Celia, bark, sailed Toronto to Liverpool, '67.
- Celia, sch., 17 g. t., b. '70, Menominee, passed out, '95.
- Celina, Can. scow, 39 g. t., b. '84, Stony Point, in com.
- Celt, schr., 11 g. t., b. '67, La Pointe, in com.
- Celtic, Can. prop., 500 t., b. Hamilton, '75, wrecked.
- Celtic, schr., 716 g. t., b. '90, Bay City, in com.
- Centennial, Can. scow, 66 g. t., b. '76, Port Robinson, in com.
- Centennial, sty., 29 g. t., b. '76, Grand Haven, in com.
- Centennial, sch., 8 g. t., b. '79, Marine City, passed out, '96.
- Centurion, prop., s., 3,402 g. t., b. '93, West Bay City, in com.
- Ceres, schr., sunk off Chagrin river, '37.
- Ceres, stcb., 131 g. t., later the M. J. Galvin.
- Ceres, Can. prop., 102 g. t., b. '77, Prescott, in com.
- Ceres, stcb., 131 g. t., b. '80, Rhaca, passed out, '95.
- Ceylon, Can. bge., 1,079 n. t., b. '91, Garden Island, in com.
- Chaffee, Ira, prop., 193 g. t., b. '67, Allegan, burned Sault, '91.
- Chaffey, Can. prop., 50 n. t., b. '91, Portsmouth, in com.
- Challenge, schr., 87 g. t., b. '52, Manitowoc, in com.
- Challenge, schr., 150 t., b. Rochester, '53, sunk Sheboygan, '71.
- Challenge, tug, 17 g. t., b. '70, Bay City, passed out, '91.
- Challenge, tug, burned East Saginaw, '80.
- Chamberlain, C. W., Can. prop., 368 n. t., b. '91, Walkerville, in com.
- Chamberlim, Selah, prop., 964 t., lost by col. '86, L. Mich., 5 lives lost.
- Chamberlin, Selah, tug, 34 g. t., b. '84, Lorain, in com.
- Chamberlin, H. L., tug, 56 g. t., b. '89, Buffalo, in com.
- Chamberlin, Porter, prop., 279 g. t., b. '74, Marine City, in com.
- Chambers, Alf, Can. tug, 34 n. t., b. '88, Goderich, in com.
- Chambers, Annabella, schr., wrecked near Toronto, '73.
- Chambers, Chas., schr., 90 g. t., b. '95, Grosse Isle, Mich., in com.
- Chambers, Kate, Can. schr., 116 g. t., b. '83, Sault Ste Marie, in com.



- Chamblay, Can. stmr., 270 n. t., b. '71, Sorel, in com.  
 Champion, schr., b. Grand River, '14.  
 Champion, stmr., 270 t., b. Newport, '43, broken up.  
 Champion, schr., b. Three Mile Bay, L. Ont., '46.  
 Champion, brig, 210 t., b. '47.  
 Champion, Can. stmr., 250 g. t., b. '50, Montreal, broken up, '80.  
 Champion, Can. schr., lost L. Erie, '60.  
 Champion, schr., 585 g. t., b. '63, Cleveland, O., in com.  
 Champion, tug, 263 g. t., b. '68, Detroit, in com.  
 Champion, Can. prop., 142 g. t., b. '68, Lindsay, in com.  
 Champion, Can. scow, 50 g. t., b. '72, River Puce, in com.  
 Champion, schr., 14 g. t., b. '91, Fort Howard, Wis., in com.  
 Champlain, Can. schr., b. Kingston, '16.  
 Champlain, prop., 835 g. t., later the Charlevoix.  
 Champlain, stmr., 356 t., b. '70, burned L. Mich., '87, 22 lives lost.  
 Champlain, prop., 437 t., b. Ogdensburg, '70.  
 Champlain, Adelaide, 230 t., b. '30, wrecked '49.  
 Chance, schr., lost L. Mich., '35, 7 lives lost.  
 Chandler, Zach., schr., 726 g. t., b. '67, Detroit, wrecked L. Sup., '92.  
 Chang, bge., b. East Saginaw, '74.  
 Chapin, J. P., schr., sunk Chicago, '77.  
 Chapman, schr., b. Port Burwell, wrecked Long Point, '45.  
 Chapman, prop., 77 t., b. Buffalo, '53.  
 Chapman, George M., schr., wrecked Oswego, '56.  
 Chapman, Wm. H., schr., 73 g. t., b. '65, Black River, O., passed out, '96.  
 Chappell, W. T., schr., 39 g. t., b. '77, Sebawaing, in com.  
 Charger, schr., 277 g. t., b. '68, Sodus, passed out, '91.  
 Charity, English v., 70 t., b. Niagara, 1770.  
 Charlemagne, Can. tug, 106 n. t., b. '91, Montreal, in com.  
 Charles and Ann, schr., 96 t., b. Oswego, '10, bought by U. S. in 1812, armed and renamed Gov. Tompkins.  
 Charles, Henry, tug, 22 g. t., b. '80, Cleveland, in com.  
 Charleston, schr., passed out.  
 Charleston, stcb., 141 g. t., formerly Carrie Stewart, b. '90, Buffalo, in com.  
 Charley, schr., ashore Prentiss bay, '90.  
 Charlotte, Can. stmr., 150 t., b. Kingston, '18, first stmr. on Bay of Quinte.  
 Charlotte, schr., captured by "patriots," '38.  
 Charlotte, sty., 49 g. t., b. '80, Rochester, in com.  
 Charlotte, tug, 74 g. t., b. '96, Rochester, in com.  
 Charlotte, Can. prop., 64 n. t., b. '68, Montreal, in com.  
 Charlotte, R., slp., 6 g. t., b. '90, Chicago, in com.  
 Charlotte, R., slpy., 18 g. t., b. '95, Chicago, in com.  
 Charlton, schr., sunk L. Ont., '44.  
 Charlton, Can. prop., 288 n. t., b. '62, Chicago, in com.  
 Charm, tug, 26 g. t., b. '85, Chicago, in com.  
 Charmer, tug, 17 g. t., b. '78, Chicago, in com.  
 Charmer, stmr., sunk Chicago, '83.  
 Charney, C. M., tug, 84 g. t., b. '82, Manitowoc, in com.  
 Charter, stmr., 350 t., b. Detroit, '48, made prop., lost L. Erie, '54.  
 Charter, prop., 241 t., b. Buffalo, '53.  
 Charter Oak, schr., 350 t., b. Detroit, '48, made prop., lost L. Erie, '55, 10 lives lost.  
 Charwell, Brit. brig, 279 t., 16 guns, L. Ont. '14, formerly Melville.  
 Chase, Belle, tug, 12 g. t., b. '67, Buffalo, in com.  
 Chassell, John, prop., 17 g. t., b. '78, Sault Ste Marie, passed out, '94.  
 Chauncey, schr., 80 t., b. Silver Creek, '43.  
 Chauncey, Commodore, schr., lost L. Erie, '58.  
 Chautauqua, stmr., 200 t., b. Buffalo, '39, sunk at Buffalo, '48.  
 Chautauqua, stmr., 214 t., b. Maumee, '47.  
 Chateaugay, Can. stmr., 165, n. t., b. '94 Montreal, in com.  
 Chateaugay, stmr., s., 742 g. t., b. '88, Shelburne, Vt., in com.  
 Chattanooga, schr., 5,000 n. t., b. West Bay City, '98.  
 Chauncey, Com., schr., lost Pt. Abino, '58.  
 Checotah, schr., 658 g. t., formerly Geo. P. Russell, b. '70, Toledo, chartered for ocean, '98.  
 Cheemaun, sty., 8 g. t., b. '95, in com.  
 Chemung, s. prop., 2,615 g. t., b. '88, Buffalo, in com.  
 Chenango, bark, 334 t., b. Cleveland.  
 Chenango, prop., 938 g. t., b. '87, Detroit, wrecked L. Hur., '91.  
 Chenango, prop., 691 g. t., later the Lizzie Madden.  
 Cheney, O. W., tug, 41 g. t., b. '81, Buffalo, sunk by col. Sault, '94.  
 Cheney, O. W., tug, 57 g. t., b. '90, Buffalo, in com.  
 Cheny, tug, 46 g. t., b. '95, Sault Ste Marie, in com.  
 Cherokee, Can., stmr., 700 t., b. Kingston, '43, as cruiser, taken to Halifax.  
 Cherokee, schr., 204 t., b. Racine, '49, foundered L. Mich., '56, 10 lives lost.  
 Cherokee, Can. schr., 400 t., sailed Toronto to Liverpool, '53.  
 Cherokee, Can. prop., 179 g. t., b. '67, Windsor, in com.  
 Cherokee, Can. bge., 405 n. t., b. '76, Garden Island, in com.  
 Cherokee, prop., 1,305 g. t., b. '89, Marine City, in com.  
 Cherub, Can. gunboat, England.  
 Chesapeake, stmr., 412 t., b. Maumee, '38, sunk L. Erie, by col., '46, 13 lives lost.  
 Cheswell, Can. gunboat, b. '13, Kingston, broken up.  
 Chetopa, slp., 6 g. t., b. '90, in com.  
 Chicago, stmr., 166 t., b. St. Joseph, Mich., '35, wrecked '42.  
 Chicago, schr., 140 t., b. White Haven, '36.  
 Chicago, prop., 150 t., b. Oswego, '43.  
 Chicago, Can. schr., foundered, L. Mich., '51.  
 Chicago, brig, capsized, Long Point, '51, 8 lives lost.  
 Chicago, prop., 758 t., b. Buffalo, '55.  
 Chicago, Can. bge., 352 n. t., b. '72, Montreal in com.  
 Chicago, slp., 7 g. t., b. '75, Chicago, passed out, '97.  
 Chicago, stmr., 747 g. t., b. '74, Manitowoc, in com.  
 Chicago, prop., 1,847 g. t., b. '79, Cleveland, in com.  
 Chicago, tug, 80 g. t., b. '82, West Bay City, in com.  
 Chicago, sty., 11 g. t., b. '93, Chicago, in com.  
 Chicago, No. 1, prop., burned L. Mich., '82.  
 Chicago Board of Trade, schr., 432 g. t., b. '63, Manitowoc, in com.  
 Chicago Packet, schr., 30 t., in L. Mich. trade, '23.  
 Chickamauga, schr., 5,000 n. t., b. West Bay City, '98, in com.  
 Chickluna, Louis, Can. prop., 14 g. t., b. '78, St. Catharines, in com.  
 Chickluna, Louis, Can. prop., 626 g. t., b. '70, Port Dalhousie, in com.  
 Chicora, Can. stmr., 518 n. t., b. '64, Liverpool, in com.  
 Chicora, prop., 1,123 g. t., b. '92, Detroit, lost L. Mich., '95, with 23 lives.  
 Chicoutimi, Can. stmr., 110 g. t., laid up '97.  
 Chief, schr., b. Clayton, L. Ont., before '52.  
 Chief, tug, 10 g. t., b. '96, Duluth, in com.  
 Chieftain, bark, 375 t., sailed for Europe, '58.  
 Chieftain, schr., 303 t., wrecked L. Mich., '67.

- Chieftain, Can. v., 394 t., b. Garden Island, '73.  
 Chieftain, Can. stmr., 404 n. t., b. '77, Port Levis, in com.  
 Childs, Asa, bark, b. '66, passed out.  
 Chili, prop., 2,584 g. t., b. '95, Cleveland, in com.  
 China, prop., 82 g. t., b. '73, Maumee City, passed out, '91.  
 China, schr., wrecked Georgian Bay, '83.  
 China, schr., 321, g. t., later the Canton.  
 China, prop., 1,239 g. t., b. '71, Buffalo, in com.  
 China, prop., burned and sunk L. Ont., '72.  
 Chinook, ywl., 10 g. t., b. '93, in com.  
 Chipman, Susie, prop., 216 g. t., b. '85, Milwaukee, in com.  
 Chippewa, English vessel, b. 1771.  
 Chippewa, Can. schr., 400 g. t., b. 1794, Kingston, wrecked.  
 Chippewa, schr., 70 t., b. Maumee, '10, captured by British, re-captured in battle L. Erie, burned by British at Buffalo, '13.  
 Chippewa, frigate, 3,200 t., commenced by U. S. Gov. Storr's Harbor, L. Ont., '14, never completed.  
 Chippewa, stmr., 100 t., b. Buffalo, '14, broken up, '25.  
 Chippewa, schr., 25 g. t., b. '37, Maumee, O.  
 Chippewa, schr., 40 t., added L. Sup. fleet, '45.  
 Chippewa, Can. scow, 165 g. t., b. '68, Wellandsport, in com.  
 Chippewa, Can. slp., 132 g. t., b. '74, Muskoka, in com.  
 Chippewa, slp., 1,291, g. t., b. '90, Marine City, in com.  
 Chippewa, Can. stmr., 1,370 n. t., b. '93, Hamilton, in com.  
 Chisholm, Henry, prop., 1,775 g. t., b. '80, Cleveland, wrecked L. Sup., '98.  
 Chisholm, Wm., prop., s., 1,581 g. t., b. '84, Cleveland, in com.  
 Chitley, Frank, Can. scow, 140 g. t., b. '66, Port Dalhousie, in com.  
 Choate, Leander, stmr., burned North Port, '88.  
 Choctaw, prop., s., 1,574 g. t., b. '92, Cleveland, in com.  
 Chow Chow, sty., 6 g. t., b. '85, Detroit, passed out, '92.  
 Christian, Samuel J., prop., 56 g. t., b. '68, Kaighn's Point, N. J., in com.  
 Christiana, schr., capsized L. Ont., '51, 11 lives lost.  
 Christiana, schr., wrecked L. Ont., '62.  
 Christiana, schr., 32 g. t., b. '74, Chicago, in com.  
 Christie, schr., 146 t., b. '69, lost Ludington, '82.  
 Christie, T. S., prop., 769 g. t., b. '85, West Bay City, in com.  
 Chub, Can. prop., 65 n. t., b. '94, Bronte, in com.  
 Church, schr., 326 g. t., b. '74, Detroit, in com.  
 Church, Frank T., scow, b. '68, Black River, O.  
 Church, H. F., schr., sunk, Cleveland, '88.  
 Church, Nellie, schr., 123 g. t., b. '67, Fort Howard, Wis., in com.  
 Churchill, schr., 1,010 g. t., b. '90, Toledo, foundered, L. Mich., '98, 2 lives lost.  
 Churubusco, schr., afloat '53 and '65.  
 Cibola, Can. stmr., 962 g. t., b. Deseronto, '88, burned Lewiston, '95.  
 Cigar Boat, Can. stmr., b. Toronto, '49, broken up.  
 Cincinnati, schr., on L. Erie in '30.  
 Cincinnati, stmr., 116 t., b. Sandusky, '36, made into vessel, called the John F. Porter.  
 Cincinnati, stmr., 500 t., b. Maumee, '47.  
 Cincinnati, prop., ashore, Point aux Barques, '54.  
 Cinda, sty., 14 g. t., b. '83, Chicago, in com.  
 Cinderella, slpy., 29 g. t., b. '86, Patten Beach, N. Y., in com.  
 Circassian, schr., lost near Mackinaw, '60.  
 Circassian, Can. prop., 8 g. t., b. '86, Aylmer, in com.  
 Ciscoe, sty., 16 g. t., b. '89, Chicago, in com.  
 Ciscoe, sty., 16 g. t., b. '91, Cleveland, in com.  
 Ciscoe, prop., 25 g. t., b. '95, Grand Haven, in com.  
 Citizen, schr., beached, Buffalo, '38.  
 Citizen, schr., 61 t., b. Manitowoc, '47.  
 Citizen, brig, 180 t., b. Erie, '47.  
 Citizen, Can. ly., 350 g. t., b. '53, Toronto.  
 City, schr., b. '53, Black River, O.  
 City, bge., burned, Toledo, '82.  
 City, schr., 41 g. t., b. '87, Marinette, in com.  
 City of Alpena, i. stmr., 1,222 g. t., formerly City of Cleveland, later the State of Ohio.  
 City of Alpena, stmr., 1,735 g. t., b. '93, Wyandotte, Mich., in com.  
 City of Ashland, stmr., burned, L. Sup., '87.  
 City of Bangor, prop., 3,690 g. t., b. '96, West Bay City, in com.  
 City of Belleville, Can. prop., 98 n. t., b. '78, St. Catharines, in com.  
 City of Berlin, prop., 2,051 g. t., b. '91, West Bay City, in com.  
 City of Boston, prop., abandoned, L. Mich., '73.  
 City of Buffalo, stmr., 2,026 t., b. Buffalo, '57, made prop., burned, Buffalo, '66.  
 City of Buffalo, schr., 455 t., b. Cleveland, '61.  
 City of Buffalo, bark, sunk, Port Huron, '75.  
 City of Buffalo, stmr., 2,398 g. t., b. '96, Detroit, in com.  
 City of Charlevoix, prop., 835 g. t., formerly Champlain, b. '70, Cleveland, in com.  
 City of Chatham, Can. prop., 296 n. t., b. '88, Toronto, in com.  
 City of Cheboygan, schr., 246 t., sunk near Detour, '86.  
 City of Chicago, schr., 327 g. t., b. '61, Cleveland, in com.  
 City of Chicago, stmr., 1,164 g. t., b. '90, West Bay City, in com.  
 City of Cleveland, stmr., 788 t., b. Buffalo, '57, made a barge, '67, lost, L. Erie, '68.  
 City of Cleveland, stmr., 918 t., b. Detroit, '80, name changed to City of Alpena, '85.  
 City of Cleveland, prop., 1,610 g. t., b. '82, Cleveland, O., in com.  
 City of Cleveland, stmr., 1,924 g. t., b. '86, Wyandotte, in com.  
 City of Collingwood, Can. prop., 835 n. t., b. '93, Owen Sound, in com.  
 City of Concord, prop., 385 g. t., b. '68, Cleveland, in com.  
 City of Detroit, prop., b. '66.  
 City of Detroit, stmr., 1,095 g. t., b. Detroit, '78, later City of the Straits.  
 City of Detroit, stmr., 1,919 g. t., b. '89, Wyandotte, in com.  
 City of Dresden, Can. prop., 124 n. t., b. '72, Dresden, in com.  
 City of Duluth, prop., 1,310 g. t., b. '74, Marine City, passed out, '97.  
 City of Erie, schr., 220 g. t., b. '62, St. John's Island, Can., passed out, '95.  
 City of Erie, s. stmr., 2,398 g. t., b. '98, Wyandotte, in com.  
 City of Fremont, prop., 706 g. t., b. '66, Cleveland, in com.  
 City of Genoa, prop., 2,110 g. t., b. '92, West Bay City, in com.  
 City of Glasgow, prop., 2,003 g. t., b. '91, West Bay City, in com.  
 City of Grand Haven, schr., 200 g. t., b. '72, Grand Haven, in com.  
 City of Grand Rapids, schr., 187 g. t., b. '73, Grand Haven, in com.  
 City of Grand Rapids, prop., 336 g. t., b. '79, Grand Haven, in com.

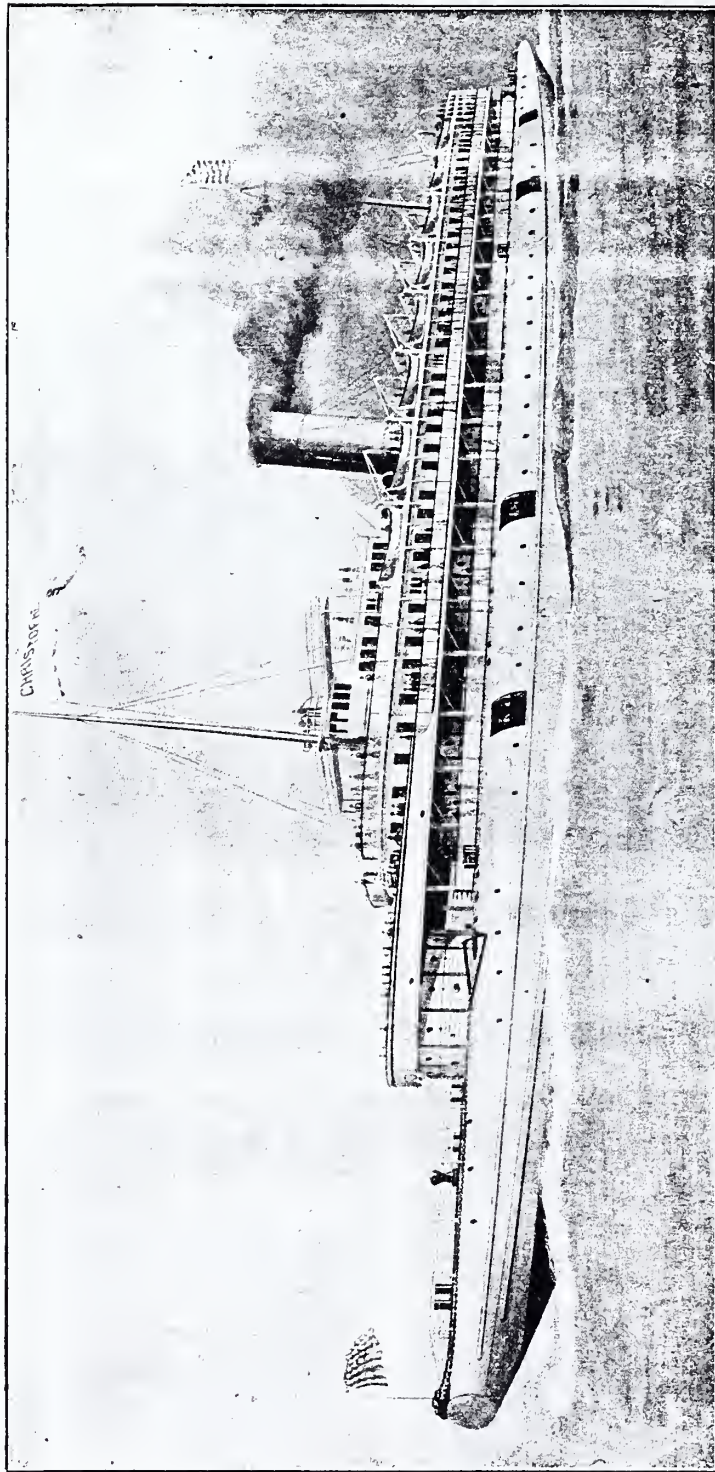


- City of Green Bay, schr., 329 t., b. '72, sailed ocean, wrecked L. Mich., '87, 5 lives lost.
- City of Green Bay, prop., 257 g. t., formerly M. C. Hawley, b. '80, Fort Howard, Wis., in com.
- City of Guelph, Can. stmr., 11 g. t., b. '80, Barrie, in com.
- City of Hamilton, Can. schr., 250 g. t., b. '51, Hamilton, sunk near Hamilton, '56.
- City of Henry, stcb., 95 g. t., b. '75, Chicago, in com.
- City of Holland, prop., 439 g. t., b. '93, Saugatuck, in com.
- City of Kalamazoo, prop., 728 g. t., b. '93, South Haven, in com.
- City of Kingston, Can. stmr., 400 g. t., b. '43, Kingston.
- City of Kingston, Can. bge., 107 g. t., b. '74, Kingston, in com.
- City of London, Can. prop., 450 t., b. St. Catharines, '65.
- City of London, Can. prop., 191 n. t., b. '88, Kingston, in com., formerly Kathleen.
- City of London, prop., 2,006 g. t., b. '91, West Bay City, in com.
- City of Louisville, prop., 452 g. t., formerly R. C. Reid, b. '89, Saugatuck, in com.
- City of Ludington, prop., 842 g. t., b. '80, Manitowoc, passed out, '97.
- City of Mackinac, i. stmr., 807 g. t., b. '83, Wyandotte, later State of New York.
- City of Mackinac, stmr., c., 1,750 g. t., b. '93, Wyandotte, in com.
- City of Marquette, prop., 19 g. t., b. '82, Marquette, passed out, '93.
- City of Marquette, prop., 341 g. t., b. '90, Manitowoc, in com.
- City of Midland, Can. prop., 536 n. t., b. '90, Owen Sound, in com.
- City of Milwaukee, schr., 437 t., b. Cleveland, '61, sunk L. Hur., '75.
- City of Milwaukee, stmr., s., 1,149 g. t., b. '81, Wyandotte, in com.
- City of Montreal, Can. stmr., 220 g. t., b. '73, Chatham, wrecked, '81.
- City of Montreal, Can. stmr., 525 t., wrecked L. Sup., '88.
- City of Mt. Clemens, Can. prop., 104 n. t., b. '82, Chateaufort, in com.
- City of Mt. Clemens, prop., 133 g. t., b. '84, Mt. Clemens, in com.
- City of Naples, prop., 2,109 g. t., b. '92, West Bay City, in com.
- City of New Baltimore, prop., 80 g. t., b. '75, Marine City, in com.
- City of New York, prop., 301 g. t., b. '63, Cleveland, in com.
- City of Nicollet, prop., 167 g. t., b. '86, Nicollet, passed out, '97.
- City of Ogdensburg, bark, damaged by col. Toronto, '65.
- City of Oswego, prop., sunk by col. L. Erie, '52.
- City of Owen Sound, Can. prop., 732 g. t., b. '75, Owen Sound, in com.
- City of Owen Sound, Can. tug, now the Can. tug Saturn.
- City of Painesville, bark, 600 t., b. '69, stranded Escanaba, '72.
- City of Paris, prop., 2,062 g. t., b. '91, West Bay City, in com.
- City of Parry Sound, Can. prop., 229 n. t., b. '89, Meaford, in com., formerly Favorite.
- City of Port Huron, bge., ashore, '71.
- City of Racine, 1,041 g. t., b. '89, Manitowoc, in com.
- City of Rochester, stmr., 87 g. t., b. '76, Rochester, now the J. D. Scott.
- City of Rome, prop., 1,908 g. t., b. '81, Cleveland, in com.
- City of St. Catharines, prop., 334 g. t., later the Otego.
- City of St. Joseph, prop., burned Benton Harbor, '84.
- City of St. Joseph, prop., 303 g. t., later the S. K. Martin.
- City of Sandusky, stmr., 432 t., b. Sandusky, '66.
- City of Sandusky, stmr., 414 g. t., formerly Jay Cooke, b. '68, Detroit, Mich., passed out, '97.
- City of Sheboygan, schr., 259 g. t., b. '71, Sheboygan, in com.
- City of Superior, prop., 700 t., b. Cleveland, '57, wrecked, '57, L. Sup.
- City of Tawas, bark, wrecked St. Joseph, '77.
- City of the Bay, Can. stmr., 200 t., in com., '56.
- City of the Lakes, schr., 16 g. t., b. '67, Erin, Mich., in com.
- City of the Straits, schr., 392 g. t., b. '67, Detroit, burned Ontonagon, '96.
- City of the Straits, stmr., 1,094 g. t., formerly City of Detroit, b. '78, Wyandotte, in com.
- City of Toledo, stmr., 262 t., b. Toledo, '65.
- City of Toledo, prop., sunk L. Ont., '77.
- City of Toledo, schr., 245 g. t., b. '65, Toledo, in com.
- City of Toledo, stmr., 1,003 g. t., b. '91, Toledo, in com.
- City of Toronto, stmr., 500 t., b. Niagara, '39, christened the Racine, later sold to Canadian parties and renamed the Algoma.
- City of Toronto, Can. schr., b. Toronto, '55, lost Straits of Belle Isle, '57.
- City of Toronto, stmr., 416 t., b. Detroit, '63.
- City of Toronto, Can. stmr., 400 g. t., b. '64, Niagara, burned Port Dalhousie, '83.
- City of Toronto, Can. stmr., 291 n. t., b. '95, Owen Sound, in com.
- City of Traverse, prop., 1,153 g. t., b. '71, Cleveland, in com.
- City of Venice, prop., 2,108 g. t., b. '92, West Bay City, in com.
- City of Windsor, Can. prop., 291 n. t., b. '83, Detroit, in com., formerly E. R. Roberts.
- City of Winnipeg, burned Duluth, '81.
- City of Woodstock, schr., 164 g. t., later the R. Kanfers.
- Clara, prop., 105 g. t., b. '60, Detroit, passed out, '96.
- Clara, slp., 11 g. t., b. '65, Essex, N. Y., in com.
- Clara, schr., 40 g. t., b. '75, Sheboygan, passed out, '94.
- Clara, 232 g. t., b. '74, Chicago, in com.
- Clara, Can. sty., 12 g. t., b. '77, Barrie, in com.
- Clara, slp., 8 g. t., b. '82, St. Ignace, in com.
- Clara, schr., 7 g. t., b. '87, Bay City, in com.
- Clara, scow, wrecked near Mille's Station, '87.
- Clara, schr., 200 t., lost '88.
- Clara Bell, prop., 46 g. t., b. '76, Saginaw, in com.
- Clara L., Can. scow, 45 g. t., b. '85, Black Creek, in com.
- Clara S., prop., 15 g. t., b. '96, Monroe, in com.
- Clare, bge., 143 g. t., b. '89, in com.
- Clarence, Can. schr., 139 g. t., b. '81, Rockland, in com.
- Claribel, tug, 39 g. t., b. '91, Benton Harbor, passed out, '97.
- Clarion, brig, 250 t., b. Erie, '44, lost L. Mich., '60.
- Clarion, prop., 1,711 g. t., b. '81, Wyandotte, in com.
- Clarissa, schr., afloat in '22.
- Clarissa, sloop, b. Chicago, '36, first vessel b. there.
- Clark, Alvin, brig, 220 t., b. Detroit, '47.
- Clark, Annie, Can. tug, 73 n. t., b. '84, Collingwood, in com.
- Clark Bros., Can. prop., 10 n. t. b. '90, Toronto, in com.



- Clark, C. J., Can. prop., 98 n. t., b. '65, Marine City, in com.
- Clark, F. C., brig, 270 t., b. St. Clair r., '49, wrecked Manitowoc, '56.
- Clark, James, Can. tug, 48 t., b. Goderich, '83, burned Owen Sound, '96.
- Clark, J. P., tug, 80 g. t., b. '67, Detroit, in com.
- Clark, Lucy J., schr., 293 t., b. '63, wrecked L. Mich., '83, 3 lives lost.
- Clark, Stephen C., prop., 276 g. t., b. '74, Clayton, N. Y., burned '93.
- Claude, tug, 42 g. t., b. '79, Grand Haven, in com.
- Claude, S., tug, 13 g. t., b. '85, Ogdensburg, in com.
- Claussion, Dan, schr., wrecked Pilot Island, '63.
- Clay, Henry, stmr., 348 t., b. Black Rock, '25, broken up.
- Clay, Henry, schr., capsized near Port Dalhousie, '31, several lives lost.
- Clay, Henry, brig., 163 t., b. Huron, '42, sunk Straits, '50.
- Clay, Henry, prop., 315 t., b. Dexter, '45, wrecked near Long Point, '51, 16 lives lost.
- Clay, Henry, prop., b. '51, Black River, O.
- Clay, Henry, schr., 59 t., lost off Ashtabula, '51.
- Clay, J. A., schr., 12 g. t., b. '85, Toledo, in com.
- Clay, tug, 10 g. t., b. '87, Indian River, Mich., in com.
- Clayton, Can. prop., 18 g. t., b. '89, Snyder, in com.
- Clayton, bark, 381 t., b. Clayton, '54, lost L. Hur., '68, by col.
- Clayton Belle, Can. schr., 300 t., b. Clayton, '63, sunk by col., L. Hur. '82, 4 lives lost.
- Clayton Belle, slp., 14 g. t., b. '85, Clayton, in com.
- Cleary, Wm. E., stcb., 140 g. t., b. '87, Lockport, in com.
- Clematis, tug, formerly Mary Love, arrived Detroit from New York, '67.
- Clematis, bge., 179 t., b. '63, wrecked Point Edward, '83.
- Clement Stephen, stmr., 602 t., b. Newport, '63, made a barge '69, in com.
- Cleveland stmr., 580 t., b. Huron, O., '37, burned Tonawanda, '54.
- Cleveland, schr., b. before '44.
- Cleveland, prop., 343 t., b. Cleveland, '46.
- Cleveland, stmr., 579 t., b. Ashtabula, '47.
- Cleveland, stmr., 574 t., b. Newport, '52, wrecked L. Sup., '64.
- Cleveland, prop., 286 g. t., b. '60, Cleveland, in com.
- Cleveland, Can. bge., 343 n. t., b. '72, Quebec, in com.
- Cleveland, bark, abandoned Pilot island, '75.
- Cleveland, prop., burned off Charity island, '80.
- Cleveland, H. G., schr., 264 g. t., b. '67, Black River, O., in com.
- Cleopatra, schr., b. Clayton, L. Ont., before '52, sunk by col. off Pt. Maitland, '59.
- Cleopatra, schr., 104 t., b. Kenosha, passed out.
- Cleopatra, schr., 67 g. t., b. '90, Chicago, passed out, '91.
- Cleopatra, Can. prop., 104 g. t., b. '93, Hamilton, in com.
- Clifton, schr., on L. Erie, '31.
- Clifton, prop., 100 t., b. Sacket's Harbor, '47.
- Clifton, stmr., 247 t., b. Chippewa, '54, dismantled, '66.
- Clifton, Can. prop., 236 g. t., b. '85, Chippewa, in com.
- Clint, D. K., schr., 729 g. t., b. '72, Saginaw, in com.
- Clinton, Can. prop., 398 n. t., b. '74, St. Catharines, in com.
- Clinton, De Witt, schr., afloat '28, lost near Kalamazoo, '55.
- Clinton, De Witt, stmr., 493 t., b. Huron, O., '36, sunk at Dunkirk, '51.
- Clinton, De Witt, stmr., 413 t., b. Buffalo, '47.
- Clinton, George, stmr., b. Oswego, '42, wrecked L. Ont., '51.
- Clinton, H. P., tug, in com., '68.
- Clinton, W. R., schr., 259 g. t., b. '66, Marine City, in com.
- Clipper City, schr., 126 g. t., b. '54, Manitowoc, passed out, '97.
- Clough, schr., 300 t., b. Black River, '67, wrecked L. Erie, '68, 7 lives lost.
- Clover, slp., 15 g. t., b. '88, Alexandria Bay, in com.
- Clow, Sarah, scow, 288 t., b. Green Bay, lost, '69.
- Clucas, Can. tug, 49 n. t., b. '82, Goderich, in com.
- Clyde, schr., 120 t., b. Chippewa, '41, wrecked Toronto, '52.
- Clyde, schr., wrecked L. Ont., '71.
- Clyde, prop., 1,306 g. t., b. '81, West Bay City, in com.
- Clyde, Can., prop., 29 g. t., b. '88, Baie des Piere, in com.
- Clytie, stcb., 130 g. t., b. '80, Ithaca, passed out, '97.
- Coaster, stmr., 400 t., b. Newport, '59, name changed to Comet.
- Coaster, schr., wrecked L. Sup., '59.
- Coaster, schr., 85 t., ashore Chicago, '86.
- Coaster, prop., 91 g. t., formerly Fred Tank, b. '89, Toledo, in com.
- Coates, L. B., schr., 189 g. t., b. '74, Saugatuck, in com.
- Coates, Peter, prop., 32 g. t., b. '86, Grand Haven, in com.
- Cobb, Ahira, schr., 945 g. t., b. '72, Cleveland, in com.
- Cobb, A. R., brig, b. '41, Black River, O.
- Cobb, A. R., brig, 226 t., b. Albany, '47, wrecked near Chicago, '56.
- Cobb, Howell, U. S. rev. cut., b. Milan, O., ordered New York, '61.
- Coboconk, Can. prop., 103 g. t., b. '76, Fenelon Falls, in com.
- Cobourg, Can. stmr., 500 g. t., b. '33, Cobourg, passed out.
- Coburn, prop., 867 t., b. Marine City, '70, lost with 32 lives, '71, Saginaw bay.
- Cochran, Joseph, schr., lost Bailey's Harb r, '70.
- Cochrane, Tom, tug, wrecked Point Albino, '62.
- Cockell, Bertha L., tug, 22 g. t., b. '84, Pentwater, in com.
- C. O. D., schr., 274 t., b. '73, wrecked L. Erie, '87.
- Codorus, prop., s., 2,166 g. t., b. '92, Buffalo, in com.
- Coe, S. S., tug, b. '66, burned and sunk Port Austin, '76.
- Coe, S. S., tug, 31 g. t., b. '68, Buffalo, in com.
- Coffinberry, H. D., prop., 858 g. t., b. '74, East Saginaw, in com.
- Cohen, Barney, tug, 17 g. t., b. '91, Huron, O., in com.
- Cohen, E., schr., 205 g. t., b. '67, Black River, wrecked L. Hur., '90.
- Colborn, A. R., prop., 275 g. t., b. '82, Saugatuck, in com.
- Colborne, Can. bge., 337 n. t., b. '74, Montreal, in com.
- Colby, Joseph L., prop., s., 1,245 g. t., b. '90, West Superior, in com.
- Colchester, schr., wrecked, '82.
- Cole, Darius, s. stmr., 538 g. t., b. '85, Cleveland, in com.
- Coleman, prop., 100 t., b. '69.
- Coleman, James, Can. schr., in com., '42, total wreck L. Ont., '64.
- Coleman, Thos., tug, burned Amherstburg, '83.
- Colerine, 212 t., b. Oswego, '54.
- Colfax, Schuyler, prop., 73 t., b. St. Joseph, '67.
- Colfax, Schuyler, bge., sunk '70.
- Colgate, James B., s. prop., 1,713 g. t., b. '92, West Superior, in com.
- Collector, schr., 50 t., on L. Ont. before '12, bought by U. S. Gov., armed and renamed Pert.





WHALEBACK PASSENGER STEAMER CHRISTOPHER COLUMBUS.



- Collier, S. & J., Can. schr., 150 n. t., b. '72, South Bay, in com.
- Collingwood, schr., sunk L. Mich., '82, 4 lives lost.
- Collins, E. K., stmr., 950 t., b. Newport (Marine City), '33, burned, '54, Malden, 23 lives lost, rebuilt and named Ark.
- Collins, Mary, schr., 261 g. t., b. '57, Ashtabula, in com.
- Collins, Mayron J., slp., 63 g. t., b. '60, Ithaca, in com.
- Collins, M. L., schr., 231 g. t., b. '54, Toledo, wrecked L. Mich., '93.
- Colonial, prop., 1,501 g. t., b. '82, Cleveland, in com.
- Colonist, prop., sunk L. Hur., '69.
- Colonist, Can. stmr., liner in '72.
- Colorado, schr., 503 t., b. Cleveland, '61.
- Colorado, bark, wrecked L. Mich., '63.
- Colorado, Can. scow., 226 n. t., b. '66, Fairport, in com.
- Colorado, bark, 1,075 g. t., b. '64, in com.
- Colorado, prop., 1,470 g. t., b. '67, Buffalo, ashore L. Sup., '98.
- Colton, A. W., tug, 92 g. t., b. '81, Buffalo, in com.
- Colton, L. H., bark, total loss by fire, L. Erie, '68.
- Colt, Thomas G., schr., b. '46, Black River, O., cap-sized L. Erie, '59.
- Columbia, schr., b. L. Ont., '09, name changed to Niagara.
- Columbia, brig, 177 t., b. Sandusky, '42, lost Green Bay, '59.
- Columbia, stmr., 520 t., b. River Raisin, '47.
- Columbia, stmr., 167 t., b. Fairport, '48, wrecked L. Hur., '66.
- Columbia, Can. stmr., 380 g. t., b. '72, Hamilton, wrecked '84.
- Columbia, stmr., sunk L. Mich., '81.
- Columbia, prop., 1,373 g. t., b. '81, Cleveland, in com.
- Columbia, Can. bge., 84 g. t., b. '85, Bedford, in com.
- Columbia, stcb., 130 g. t., b. '89, Lockport, in com.
- Columbia, prop., 140 g. t., b. '92, Grand Haven, in com.
- Columbia, prop., 399 g. t., b. '92, Buffalo, in com.
- Columbia, prop., 26 g. t., b. '96, Clayton, in com.
- Columbian, schr., 365 g. t., b. '64, Green Bay, in com.
- Columbian, Can. prop., 488 n. t., b. '92, Chester, in com.
- Columbian, Can. prop., 271 g. t., b. '92, Lindsay, in com.
- Columbus, Can. ship, b. near Quebec, '24.
- Columbus, stmr., 391 t., b. Huron, O., '35, wrecked Dunkirk, '48.
- Columbus, Chris, schr., 29 g. t., b. '73, Erin, Mich., in com.
- Columbus, Christ'r, s. prop., 1,511 g. t., b. '93, West Superior, in com.
- Colwell, George L., prop., 454 g. t., formerly schr., b. '80, Bay City, in com.
- Coman, L. D., schr., 165 t., wrecked L. Hur., '65.
- Comanche, schr., 322 g. t., b. '67, Oswego, later the Thomas Dobbie.
- Comanche, schr., sunk Welland canal, '81.
- Comanche, schr., 306 t., wrecked L. Ont., '86.
- Comanche, sty., 357 t., b. Cleveland, '92, sold U. S. gov., '98, became Frolic.
- Combine, stmr., 25 g. t., b. '91, Saugatuck, in com.
- Comely, schr., 243 t., sunk Point Albino, '69.
- Comet, schr., aground near Niagara river, '20.
- Comet, schr., foundered with all on board, L. Erie, '35.
- Comet, Can. stmr., 300 t., b. '49, boiler exploded '51, killing 8 people; stmr. rebuilt and named Mayflower.
- Comet, schr., b. Buffalo, '56.
- Comet, prop., b. Cleveland, '57, sunk by col. L. Sup., '75 with loss of 10 lives.
- Comet, stmr., 389 t., b. Newport, '60.
- Comet, stmr., sunk by col. L. Ont., '61, 3 lives lost.
- Comet, schr., wrecked Point Betsey, '70.
- Comet, stmr., formerly Coaster.
- Comet, tug, 30 g. t., b. '72, Buffalo, passed out, '95.
- Comet, Can. prop., 22 g. t., b. '76, Chatham, in com.
- Comet, tug, 32 g. t., b. '81, Muskegon, passed out, '97.
- Comet, Can. prop., 20 g. t., b. '87, Milford Bay, in com.
- Commencement, slp., 30 t., b. Buffalo Creek, '10.
- Commencement, schr., lost L. Mich., '69.
- Commerce, Can. stmr., b. Montreal, '15, collided with stmr. Dispatch, L. Erie '53, and sunk with 38 persons.
- Commerce, schr., b. '25.
- Commerce, schr., in lumber trade at Chicago, '37, name changed to Hiram Pearson.
- Commerce, stmr., 80 t., b. Sandusky, '37, broken up, '47.
- Commerce, Can. stmr., b. before '43, later the Eclipse.
- Commerce, schr., 327 g. t., b. '57, Sandusky, in com.
- Commerce, schr., 183 t., wrecked South Haven, L. Mich., '67.
- Commerce, prop., 112 g. t., b. '78, Milwaukee, in com.
- Commerce, schr., sunk Racine, '87.
- Commerce, prop., sunk L. Erie, '89.
- Commodore, schr., wrecked, Cleveland harbor, '45.
- Commodore, tug, 40 g. t., formerly O. B. Green, b. '65, Chicago, in com.
- Commodore, Can. prop., 175 g. t., b. '67, Lindsay, in com.
- Commodore, prop., 2,082 g. t., b. '75, Cleveland, in com.
- Commodore, schr., 586 g. t., b. '80, Saginaw, in com.
- Companion, prop., 196 g. t., b. '88, Toledo, in com.
- Compeer, slpy., 7 g. t., b. '90, Cleveland, passed out, '93.
- Compound, tug, 40 g. t., b. '68, Cleveland, in com.
- Comrade, schr., 880 t., foundered L. Sup., '90.
- Comstock, A. W., schr., 1,700 n. t., foundered, '95, L. Sup.
- Comstock, J. B., schr., 326 g. t., b. '91, Algonac, in com.
- Concord, brig, 234 t., b. '46, Black River, O., lost, '69, off Port Bruce.
- Concord, prop., 552 t., in com., '66.
- Condor, schr., lost L. Mich., '62.
- Condor, schr., 30 g. t., b. '71, Sheboygan, in com.
- Condor, Can. bge., 633 n. t., b. '88, Montreal, in com.
- Conductor, schr., wrecked Long Point, '54.
- Cone, Eva M., schr., total loss, '72.
- Conemaugh, prop., 1,609 g. t., b. '80, Bay City, in com.
- Conestoga, prop., 1,726 g. t., b. '78, Cleveland, in com.
- Confiance, Brit. schr., 82 t., originally Julia, captured by U. S. on L. Ont., '13.
- Confiance, Can. schr., b. Kingston, '16.
- Conger, Omar D., prop., 199 g. t., b. '82, Port Huron, in com.
- Congress, schr., ashore L. Erie, '44.
- Congress, brig, 206 t., b. Buffalo, '47.
- Congress, prop., formerly Detroit, wrecked L. Huron, '73.
- Conkin, S. B., schr., 200 t., b. Vermilion, '67, sunk Black River isle, '83.
- Conlon, Maggie, Can. scow, 196 g. t., b. '71, Port Dalhousie, in com.
- Conneaut, schr., 239 g. t., b. '73, Conneaut, in com.
- Conneaut, tug, 62 g. t., b. '93, Buffalo, in com.
- Conneaut Packet, schr., b. before 1850, Conneaut.
- Connell, tug, 43 g. t., b. '94, Buffalo, in com.
- Connelly Bros., schr., 751 g. t., b. '96, Marine City, in com.
- Connelly, Dan, tug, 36 g. t., b. '87, Cleveland, in com.
- Conqueror, Can. stmr., 328 n. t., b. '71, Renfrew, Scot., in com.
- Conqueror, Can. prop., 36 n. t., b. '86, Toronto, in com.
- Conquest, schr., 82 t., originally Genesee Packet, U. S. schr., L. Ont., '12, 6 guns.

- Conquest, schr., 151 g. t., b. '53, Olcott, N. Y., in com.  
 Conservative, Can. prop., 6 g. t., b. '86, Port Burwell, in com.  
 Constance, Can. prop., 185 g. t., b. '91, Owen Sound, in com.  
 Constellation, stmr., 483 t., b. '37, broken up.  
 Constellation, brig, total loss L. Mich., '57.  
 Constitution, Can. stmr., 350 t., b. Oakville, '32, later the Transit.  
 Constitution, stmr., 443 t., b. Conneaut, '37, broken up at Sandusky.  
 Constitution, stmr., 440 t., b. Buffalo, '47, sunk Sandusky, raised and engine placed, '47, on new hull, the J. D. Morton.  
 Constitution (1st), brig, 92 t., b. Buffalo, '47.  
 Constitution, schr., wrecked Long Point, '48.  
 Constitution, schr., lost L. Erie, '59.  
 Constitution, schr., 422 g. t., b. '61, Milwaukee, in com.  
 Constitution, tug, 96 g. t., b. '64, Clayton, in com.  
 Constitution, s. schr., 3,231 g. t., b. '97, Superior, in com.  
 Consuelo, schr., 145 t., b. '51, wrecked Bailey's Harbor, '87.  
 Consuelo, schr., 450 t., wrecked off Marblehead.  
 Contaluta, sty., in com., '75.  
 Contaluta, sty., 38 g. t., b. '93, Detroit, in com.  
 Contest, schr., 96 g. t., b. '63, Holland, passed out, '97.  
 Contest, schr., wrecked Whitehall, '82.  
 Contest, sty., 14 g. t., b. '94, Chicago, in com.  
 Continental, prop., 1,506 g. t., b. '82, Cleveland, in com.  
 Continental, dredge, sunk Conneaut, '93, 5 lives lost.  
 Contractor, slp., 64 t., b. Black Rock, 1802-3, bought by U. S. Gov., re-named Trippe and became one of Perry's squadron.  
 Convoy, schr., 210 t., b. Elk Creek, '44, foundered L. Erie, '54, 8 lives lost.  
 Convoy, schr., sunk L. Erie, '62, by col.  
 Conway, L. J., schr., 186 t., wrecked near Fowler Creek, Mich., '86, 5 lives lost.  
 Conwell, schr., 148 t., wrecked L. Erie, '65.  
 Coe, M., schr., ashore Long Point, '51.  
 Cook, A. B., Can. prop., 36 n. t., b. '85, Pt. Robinson, in com.  
 Cook, Col., schr., 266 g. t., b. '55, Oswego, stranded, '94.  
 Cook, E. P., stcb., 135 g. t., b. '81, Havana, N. Y., in com.  
 Cook, Lafayette, brig, ashore Port Stanley, '72.  
 Cook, Mary Ellen, schr., 132 g. t., b. '75, Grand Haven, in com.  
 Cook, Minerva, schr., sunk by col. L. Ont., '58.  
 Cook, Robert H., prop., s., 157 g. t., b. '82, Buffalo, in com.  
 Cook, Sam, schr., lost L. Erie, '82.  
 Cooke, Jay, stmr., 415 g. t., b. Detroit, '68, later the City of Sandusky.  
 Cooney, John R., tug, 13 g. t., b. '87, Erie, in com.  
 Cooper, Emily, schr., lost, '94, L. Mich.  
 Cooper, Geo. G., schr., 401 t., b. Madison.  
 Cooper, George, tug, 53 g. t., b. '91, Manitowoc, in com.  
 Cooper, Lottie, schr., 252 g. t., b. '76, Manitowoc, wrecked Sheboygan, '94.  
 Cooper, Ralph M., tug, 27 g. t., b. '93, Manitowoc, in com.  
 Cooper, R. W., Can. schr., 161 g. t., b. '80, Ottawa, in com.  
 Copley, Mary, schr., 275 g. t., later the Madeline T. Downing.  
 Coquette, schr., sunk L. Erie, '58.  
 Coquette, schr., foundered with all hands L. Mich., '66.  
 Cora, slpy., 23 g. t., b. '73, Pamrapo, N. J., in com.  
 Cora, schr., 44 g. t., b. '79, Benton Harbor, in com.  
 Cora, tug, 14 g. t., b. '92, River Rouge, Mich., in com.  
 Cora, slp., 6 g. t., b. '96, Clayton, in com.  
 Cora A., schr., 381 g. t., b. '89, Manitowoc, in com.  
 Cora B., tug, 30 g. t., b. '74, East Saginaw, burned Duluth, '90.  
 Cora B., tug, now the Walton B.  
 Cora Belle, schr., 26 g. t., b. '74, Detroit, passed out, '96.  
 Coral, Y., b. Clayton, N. Y.  
 Coral, schr., 105 g. t., b. '65, Ogdensburg, in com.  
 Coral, prop., 127 t., b. '70, ashore, L. Erie, '86.  
 Coral, Can. schr., 26 g. t., b. '74, Oakville, in com.  
 Coralia, prop., s., 4,331 g. t., b. '96, Cleveland, in com.  
 Cordelia, schr., sunk near Ashbridge's bay, '56.  
 Corinthian, Can. stmr., 350 t., b. Kingston, '64.  
 Corinthian, schr., 368 t., lost Long Point, '67.  
 Corisand, Can. schr., 292 n. t., b. '72, Detroit, in com.  
 Corkin, W. S., tug, 63 g. t., b. '73, Cleveland, passed out, '91.  
 Corliss, George H., s. bge., 3,259 g. t., b. '96, Chicago, in com.  
 Cormorant, prop., 977 g. t., b. '73, Cleveland, in com.  
 Corn Crib, Can. bge., 330 n. t., b. '68, Montreal, in com.  
 Cornelia, slp., 55 g. t., b. '78, Essex, N. Y., in com.  
 Cornelia, schr., 101 g. t., b. '80, Clayton, in com.  
 Cornelia, tug, 38 g. t., b. '82, Buffalo, in com.  
 Cornell, May, schr., lost, '94, L. Mich.  
 Cornell, Mary, schr., 8 g. t., b. '82, Manistee, in com.  
 Cornell, S. Douglass, tug, 20 g. t., b. '84, Buffalo, in com.  
 Cornett, stmr., 385 t., b. Newport, '59.  
 Corning, E., bark, 978 t., b. Tonawanda, '67.  
 Corning, Ida, schr., 444 g. t., b. '81, Saginaw, in com.  
 Cornwall, Can. bge., 666 n. t., b. '90, Kingston, in com.  
 Cornwallis, bge., b. Toronto, '90.  
 Cornwell, A. A., schr., stranded, '65.  
 Corona, stmr., 470 g. t., b. '70, Manitowoc, in com.  
 Corona, prop., 2,408 g. t., b. '88, Cleveland, in com.  
 Corona, tug, 28 g. t., b. '92, Duluth, in com.  
 Corona, Can. stmr., 1,052 n. t., b. '96, Toronto, in com.  
 Corona, stmr., burned Tonawanda, '98.  
 Cornet, Can. schr., 24 g. t., b. '87, Port Credit, in com.  
 Correspondent, schr., 294 t., sailed Detroit to Liverpool, '58.  
 Correspondent, schr., wrecked off Dunkirk, '78.  
 Corry, Mike, schr., 380 g. t., formerly J. O. Thayer, b. '74, Two Rivers, Wis., in com.  
 Corsair, schr., lost, '72.  
 Corsair, sty., 36 g. t., b. '87, Buffalo, in com.  
 Corsica, stmr., 500 t., b. Montreal, '70.  
 Corsica, prop., 2,364 g. t., b. '88, Cleveland, in com.  
 Corsican, schr., 210 g. t., b. '62, Alcott, N. Y., sunk by col., L. Hur., '93, 6 lives lost.  
 Corsican, Can. stmr., 478 n. t., b. '70, Montreal, in com.  
 Cort, Henry, prop., s., 2,234 g. t., formerly Pillsbury, b. '94, West Superior, in com.  
 Cortens, H. and G., in com., '69.  
 Cortez, schr., b. '66, ashore, Oswego, '80.  
 Cortland, bark, sunk L. Erie, '68, by col., 2 lives lost.  
 Cortland, schr., abandoned L. Erie, '72.  
 Corwin, Tom, schr., 25 g. t., b. '40, Maumee, O.  
 Corwin, Tom, brig, 103 t., b. '47.  
 Cossack, schr., 408 t., b. Oswego, '67.  
 Costello, Dan, tug, 27 g. t., b. '74, Milwaukee, in com.  
 Cotton, L. H., schr., 395 t., b. Cleveland, '61.  
 Cotton, Nellie, tug, 37 g. t., b. '67, Buffalo, in com.  
 Cottrell, Harry, prop., 76 g. t., b. '86, Marine City, foundered, '97.  
 Couch, D. L., schr., sunk, '72, near Long Point.  
 Couch, James, schr., 979 g. t., b. Port Huron, '71, later the Tasmania.



- Couch, John C., schr., aground St. Clair Flats, '82.  
 Counter, Hannah, schr., wrecked L. Erie, '51.  
 Countess, schr., ashore, '83.  
 Countess, sty., 10 g. t., b. '91, Detroit, in com.  
 Courier, brig, 219 t., b. Cleveland, '47, sunk L. Erie, '47.  
 Courtright, M., schr., 389 t., abandoned near Racine, '71.  
 Cousin Mary, scow, b. '53, Black River, O.  
 Covell, Mark B., prop., 261 g. t., b. '88, Manitowoc, in com.  
 Covill, A. J., i. schr., 200 g. t., later the Vega.  
 Coville, Almeda, Can. prop., 9 g. t., b. '68, Buffalo, in com.  
 Cowan, John, tug, lost, '88.  
 Cowie, Wm., prop., 208 g. t., b. '68, Marine City, burned Cheboygan, '90.  
 Cowles, Henry, schr., 94 g. t., b. '81, South Haven, in com.  
 Coyne, Emma L., schr., 497 g. t., b. '67, Detroit, in com.  
 Craftsman, Can. schr., 370 n. t., b. '73, Port Burwell, in com.  
 Craftsman, Can. bge., 65 g. t., b. '83, Kingston, in com.  
 Craig, Alice, schr., 65 t., damaged, '69.  
 Craig, Alice, schr., 41 t., b. '77, wrecked L. Sup., '87.  
 Craig, Annie L., prop., 889 t., b. Gibraltar, '70.  
 Craig, John, prop., 2,044 g. t., b. '88, Trenton, Mich., in com.  
 Craig, Janet, Can. prop., 12 g. t., b. '84, Bristol, in com.  
 Craig, Mary D., schr., 64 g. t., b. '67, Essex, N. Y., passed out, '97.  
 Cram, Roys J., tug, 19 g. t., b. '82, Saginaw, in com.  
 Cramer, schr., 200 t., b. Milwaukee, '47.  
 Cranage, Thomas, prop., 2,219 g. t., b. '93, Bay City, in com.  
 Crandall, Lizzie, stcb., 135 g. t., b. '89, Lockport, in com.  
 Crandall, Orville A., stcb., 122 g. t., b. '93, Lockport, in com.  
 Crandella, Can. prop., 266 g. t., b. '91, Lindsay, in com.  
 Crane, Frank R., tug, 16 g. t., b. '78, Chicago, in com.  
 Crane, Willard, Can. schr., 155 g. t., b. '87, Hull, in com.  
 Crannell, Levi, Can. schr., 157 g. t., b. '84, Hull, in com.  
 Crawford, tug, 36 g. t., b. '80, Milwaukee, in com.  
 Crawford, A. V., Can. tug, 78 n. t., b. '91, Goderich, in com.  
 Crawford, Charlie, schr., 298 g. t., b. '73, Caseville, Mich., in com.  
 Crawford, Frank, schr., 310 t., b. Pidgeon r., '61, lost Parent's bay, '82.  
 Crawford, J. A., tug, 38 g. t., now the Pathfinder.  
 Crawford, Lemuel, bark, b. '55, Black River, O., wrecked L. Erie, '58.  
 Crawford, R. C., schr., 310 g. t., now the Capt. Geo. W. Naughtin.  
 Crazy Boy, slip., 18 g. t., b. '89, Fisher's Landing, N. Y., in com.  
 Crazy Jane, Can. schr., on L. Ont., '16.  
 Crazy Jim, schr., 23 g. t., b. '83, Drummond's Isle, Mich., passed out, '93.  
 Cream City, bark, 769 t., b. Milwaukee, damaged, '69.  
 Creamer, E., schr., wrecked Chicago, '59.  
 Creig, Annie, Can. prop., 80 g. t., b. '80, Port Dover, in com.  
 Creole, Can. tug, 21 g. t., b. Midland, '96.  
 Crescent, schr., wrecked North Fox island, '55.  
 Crescent, prop., 71 g. t., b. '90, Grand Haven, in com.  
 Crescent City, stmr., 1,740 t., b. Buffalo, '53, dismantled, '59.  
 Crescent City, s. prop., 4,213 g. t., b. '97, South Chicago, in com.  
 Cresco, prop., 62 g. t., b. '82, Ogdensburg, in com.  
 Cressington, brig, formerly J. G. Deshler.  
 Crete, schr., 2,040 g. t., b. '97, West Bay City, in com.  
 Crevola, schr., wrecked L. Erie, '63.  
 Crevolin, Henry, schr., 117 t., b. Cape Vincent before '49.  
 Crippin, William, prop., 365 g. t., later the Maggie Marshall.  
 Crispin, brig., 154 t., b. Sacket's Harbor, '45, wrecked Pt. aux Barques, '53.  
 Crispin, brig, 151 t., b. Detroit, '47.  
 Crocker, Hans, schr., 496 t., b. Milwaukee before '60.  
 Crocker, L. B., schr., damaged by col., '65.  
 Crockett, Col., schr., 18 t., b. Brunersburgh, '36.  
 Crockett, Col., stmr., lost St. Joseph, '36.  
 Croghan, schr., 40 t., passed out.  
 Crombie, W. A., Can. schr., 155 g. t., b. '87, Ottawa, in com.  
 Cromwell, Oliver, Can. prop., sunk in Straits by col., '57, raised, '71.  
 Cromwell, schr., 450 t., wrecked, '88.  
 Crook, lumber v., b. Saugatuck about '37.  
 Crook, schr., 50 t., b. Milwaukee, '47.  
 Crook, W. T., schr., 64 g. t., b. '64, Essex, N. Y., passed out, '97.  
 Crooks, Charles, schr., ashore, '55.  
 Crooks, Ramsey, brig, 170 t., b. '36, Black River, O., capsized L. Erie, '51.  
 Crosby, tug, 35 g. t., b. '89, Benton Harbor, in com.  
 Crosby, E. G., tug, 85 g. t., b. '92, Grand Haven, in com.  
 Cross, Belle P., schr., 299 g. t., b. '70, Trenton, Mich., in com.  
 Cross, E. W., brig, wrecked Chicago, '66.  
 Crossman, C. W., prop., 18 g. t., b. '91, Alexandria Bay, in com.  
 Crosthwaite, Wm., schr., 371 g. t., b. '66, Bay City, in com.  
 Crosthwaite, W. S., schr., 673 g. t., b. '73, Saginaw chartered ocean, '98.  
 Crothers, Lyman, bge., 107 g. t., b. '73, in com.  
 Croton, prop., b. Cleveland, '46.  
 Crow, stmr., aground Stony island, '72.  
 Crowe, J. R., Can. prop., 77 g. t., b. '70, Chatham, in com.  
 Crowell, Wm. R., tug, 56 g. t., b. '75, Buffalo, founded L. Mich., '93.  
 Crowley, Dennis, tug, 23 g. t., b. '72, Cleveland, in com.  
 Crowley, Hon. Richard, b. Lockport, '80.  
 Croze, James W., tug, 22 g. t., b. '82, Houghton, Mich., in com.  
 Cruiser, Can. prop., 55 g. t., b. '77, Portsmouth, in com.  
 Crusader, tug, 198 g. t., b. '74, Port Huron, burned, Sault, '94, 2 lives lost.  
 Crusader, schr., 27 g. t., b. '94, Chicago, in com.  
 Crysler, Walter, sty., 27 g. t., b. '82, Buffalo, in com.  
 C. S. C. Co., Beta, prop., s., 151 g. t., b. '96, Elizabethport, N. J., in com.  
 C. S. C. Co. No. 1, cb., 133 g. t., b. '95, Cleveland, in com.  
 C. S. C. Co. No. 2, cb., 133 g. t., b. '95, Cleveland, in com.  
 C. S. C. Co. No. 3, cb., 133 g. t., b. '95, Cleveland, in com.  
 C. S. C. Co. No. 4, cb., 133 g. t., b. '95, Cleveland, in com.  
 C. S. C. Co. No. 5, cb., 133 g. t., b. '95, Cleveland, in com.  
 C. S. C. Co. No. 6, s. schr., 164 g. t., b. '96, Elizabethport, N. J., in com.



- C. S. C. Co. No. 7, s. schr., 164 g. t., b. '96, Elizabethport, N. J., in com.  
 C. S. C. Co. No. 8, s. schr., 164 g. t., b. '96, Elizabethport, N. J., in com.  
 C. S. C. Co. No. 9, s. schr., 163 g. t., b. '96, Elizabethport, N. J., in com.  
 C. S. C. Co. No. 10, s. schr., 163 g. t., b. '96, Elizabethport, N. J., in com.  
 C. S. C. Co. No. 11, s. schr., 162 g. t., b. '96, Elizabethport, N. J., in com.  
 C. S. C. Co. No. 12, s. schr., 164 g. t., b. '96, Elizabethport, N. J., in com.  
 C. S. C. Co. No. 13, s. schr., 164 g. t., b. '96, Elizabethport, N. J., in com.  
 C. S. C. Co. No. 14, s. schr., 163 g. t., b. '96, Elizabethport, N. J., in com.  
 C. S. C. Co. No. 15, s. schr., 168 g. t., b. '96, Elizabethport, N. J., in com.  
 Cuba, brig, 135 t., b. '47.  
 Cuba, schr., 190 g. t., b. '56, Milan, O., passed out, '94.  
 Cuba, prop., s., 1,526 g. t., b. '72, Buffalo, in com.  
 Cuba, Can. prop., 522 n. t., b. '75, Kingston, in com.  
 Cuba, stcb., 132 g. t., b. '78, Buffalo, in com.  
 Cultivature, Can. stmr., 343 n. t., b. '75, Sorel, in com.  
 Culver, Oliver, schr., ashore, '82.  
 Cumberland, brig, 200 t., b. Cleveland, '47, wrecked L. Hur., '56, wrecked Milwaukee, '59.  
 Cumberland, stmr., 750 t., b. Port Robinson, '71.  
 Cumberland, Can. v., b. L. Huron, '75.  
 Cumberland, prop., 1,601 g. t., b. '81, Cleveland, in com.  
 Cumberland, schr., 18 g. t., b. '84, Milwaukee, passed out, '94.  
 Cummings, M. J., schr., 330 g. t., b. '74, Owego, founded L. Mich., '94, 6 of crew lost.  
 Cummings, Lou A., prop., 62 g. t., b. '83, Grand Haven, in com.  
 Cunningham, Jas., Can. schr., 76 g. t., b. '77, Hull, in com.  
 Cupid, prop., 14 g. t., formerly Lida, b. '74, Buffalo, in com.  
 Curlew, schr., 80 g. t., b. '66, Port Huron, sunk L. Mich., '90.  
 Curlew, tug, 63 g. t., b. '67, Ogdensburg, in com.  
 Curlew, Can. prop., 158 g. t., b. '92, Owen Sound, in com.  
 Currans, tug, 9 g. t., b. '90, Two Rivers, Wis., in com.  
 Currie, R. W., tug, 36 g. t., b. '82, Algonac, in com.  
 Curry, S. S., s. prop., 3,260 g. t., b. '93, Bay City, in com.  
 Curtis, Alice, schr., b. '58, Black River, O.  
 Curtis, C. F., prop., 691 g. t., b. '82, Marine City, in com.  
 Curtis, H. C., Can. tug, 38 n. t., b. '78, Quebec, in com.  
 Curtis, S. E., tug, 64 g. t., b. '80, Fort Gratiot, in com.  
 Curtiss, Charles G., tug, 17 g. t., b. '84, Buffalo, in com.  
 Cushing, W. D., tug, 39 g. t., b. '68, Cleveland, in com.  
 Cushman, Gov., prop., b. '57, rebuilt '65, wrecked by explosion, '68, L. Ont., 11 lives lost.  
 Cushy, scow, ashore Manistee, '81.  
 Cuthbert, Annie, Can. slp., 36 g. t., b. '74, Cobourg, in com.  
 Cuthbert, Nellie, Can. prop., 45 n. t., b. '81, Belleville, in com.  
 Cutler, Dwight, Jr., tug, 24 g. t., b. '75, Grand Haven, passed out, '95.  
 Cuyler, George W., tug, 46 g. t., b. '80, Bay City, in com.  
 Cuyler, Glen, schr., 49 g. t., b. '59, Pultneyville, in com.  
 Cuyahoga, schr., captured by British at Malden, '12.  
 Cuyahoga, brig, capsized L. Erie, '56.  
 Cuyahoga, prop., sunk Sarnia, '66.  
 Cuyahoga, schr., 242 g. t., b. '25, Cleveland, O., passed out, '95.  
 Cuzner, John, Can. schr., 46 g. t., b. '93, Ottawa, in com.  
 Cyclone, bge., b. Cleveland, '57, lost L. Huron, '85, formerly prop. Pittsburg.  
 Cyclone, tug, 29 g. t., b. '66, Vermilion, O., passed out, '96.  
 Cyclone, prop., 122 g. t., b. '83, Cleveland, in com.  
 Cyclone, Can. tug, 44 g. t., b. Ahmic Harbor, '96.  
 Cygnet, schr., sunk by collision L. Erie, '55.  
 Cygnet, stmr., 150 t., b. Buffalo, '57.  
 Cygnet, tug, wrecked by explosion near East Saginaw, '75.  
 Cygnet, tug, burned Cheboygan, '82.  
 Cygnet, Can. sail yt., 27 g. t., b. '79, Buffalo, in com.  
 Cygnet, tug, 12 g. t., b. '78, Buffalo, in com.  
 Cynthia, stmr., burned Malden, '38.  
 Cynthia, sty., 103 g. t., b. '95, Detroit, in com.  
 Cynthia, Can. tug, 35 g. t., b. Collingwood, '96.  
 Cyprus, Can. sail yt., 6 g. t., b. '79, Fairlee, in com.  
 Czar, schr., 441 t., b. Oswego, stranded False Presque Isle, '75.  
 D, Can. bge., 221 n. t., b. '68, Batiscan, in com.  
 Dacotah, prop., 688 t., b. '57, lost L. Erie, '60, with all on board, 24 souls.  
 Dacotah, scow schr., sunk Beaver Harbor, '73.  
 Dacotah, schr., 281 g. t., b. '67, Fairport, in com.  
 Dahlia, schr., 210 t., b. Ashtabula, '47, wrecked Port Burwell, '57.  
 Dahlke, Bertie, tug, 23 g. t., later the Sprite.  
 Dailey, Kate, bark, 547 t., b. Cleveland, passed out.  
 Daisy, prop., 25 g. t., b. '81, New Baltimore, Mich., in com.  
 Daisy, sty., 21 g. t., b. '84, South Haven, in com.  
 Daisy, stmr., burned Hamtrac, '84.  
 Daisy, schr., 41 g. t., b. '85, Ludington, passed out, '97.  
 Daisy, Can. tug, 18 n. t., b. '89, Port Frank, in com.  
 Daisy, Can. prop., 11 g. t., b. '93, Port Frank, in com.  
 Daisy, Can. stmr., burned, '95.  
 Daisy, sty., 18 g. t., b. '96, Vermilion, O., in com.  
 Dakota, Can. bge., 564 n. t., b. '85, Garden Island, in com.  
 Dale, stcb., 133 g. t., b. '80, Havana, N. Y., in com.  
 Daley, Sarah, tug, 18 t., b. '69, passed out.  
 Dalhousie, Can. schr., 350 g. t., b. '19, Prescott, broken up.  
 Dalhousie, Can. prop., b. St. Catharines, '69, burned L. Ont., '72.  
 Dall, Annie, schr., 149 g. t., b. '83, Chicago, ashore L. Mich., '98.  
 Dall, David, schr., 120 t., b. Green Bay, '65, passed out.  
 Dall, Lincoln, schr., 206 g. t., b. '69, Chicago, wrecked '94, L. Mich., 1 life lost.  
 Dall, Margaret, schr., 150 g. t., b. '67, Michigan City, in com.  
 Dallas, Alex. J., U. S. rev. cut., b. Erie, '16.  
 Dallas, i. stmr., U. S. rev. cut., b. Erie, '46, removed to Atlantic coast, '48.  
 Dalton, Peter, tug, 49 g. t., b. '80, Grand Haven, in com.  
 Dama, Can. sty., 60 n. t., b. '89, Sorel, in com.  
 Dan, Can. prop., now the Carmana.  
 Dana, George, bge., stranded L. Hur., '76.  
 Dana, Major, schr., 21 g. t., b. '57, Albany, N. Y., in com.  
 Dana, Major, tug, 52 g. t., b. '91, Grand Haven, passed out, '96.

- Danay, Lillie, schr., 120 t., wrecked Kincardine, '65.  
Dancey, Lily, Can. schr., 125 t., b. Goderich, in com., '56, wrecked at Port Elgin.  
Dandy, Can. tug, 65 n. t., b. '65, Buffalo, in com.  
Dandy, Can. slp., 50 g. t., b. '94, Seeley's Bay, in com.  
Dane, schr., lost, '71.  
Danforth, F. L., tug, 60 t., b. Buffalo, '67.  
Danforth, F. L., Can. schr., 813 n. t., b. '72, Tonawanda, in com., formerly an American vessel.  
Danforth, Grace, tug, 65 g. t., b. '88, Buffalo, in com.  
Danube, schr., 278 g. t., b. '53, Oswego, passed out, '95.  
Danube, stcb., 90 g. t., b. '61, Chicago, passed out, '95.  
Dardanelles, Can. schr., in com., '57, lost L. Ont., '61.  
Darien, schr., in com., '58, lost L. Erie, '66, several of crew lost.  
Darien, schr., wrecked L. Hur., '70.  
Darley, Kate, schr., 388 g. t., b. '62, Cleveland, in com.  
Darlie, C. J., schr., wrecked L. Erie, '47.  
Darling, Grace, Can. tug., 29 n. t., b. '84, Wallaceburg, in com.  
Darling, Grace, Can. prop., 28 g. t., b. '86, Collingwood, laid up, '97.  
Darling, Sam, tug, passed out.  
Dart, slp., in com., '33.  
Dart, stmr., 297 t., b. Trenton, '50, dismantled, '66.  
Dart, schr., 50 t., b. Green Bay, '67.  
Dart, bge., burned Sandwich, Ont., '77.  
Dart, schr., total wreck near Two Rivers, '83.  
Dart, Russell, schr., 222 g. t., formerly Josephine, b. '57, Milan, passed out, '96.  
Dashing Wave, schr., 269 g. t., b. '62, Clayton, in com.  
Dash, John A., tug, 13 g. t., b. '86, Erie, in com.  
Daun, schr., capsized L. Erie, '47, 8 lives lost.  
Dauntless, Can. schr., 156 g. t., b. '67, Oakville, in com.  
Dauntless, Can. schr., 72 g. t., b. '68, Port Severn, in com.  
Dauntless, schr., total wreck St. Martin's reef, '70.  
Dauntless, Can. tug, 128 n. t., b. '71, Lewis, in com.  
Dauntless, schr., 209 t., b. '74, stranded L. Erie, '86.  
Dauntless, Can. schr., 143 g. t., b. '75, Port Dover, in com.  
Dauntless, Can. prop., 8 g. t., b. '84, Gravenhurst, in com.  
Dauntless, schr., sunk Sarnia bay, '89.  
Dauntless, schr., 8 g. t., b. '91, Chicago, passed out, '92.  
Dauntless, Can. schr., wrecked near Fort Gratiot, '95.  
Dauntless, schr., 15 g. t., b. '96, Alpena, in com.  
Davey, W. H., schr., sunk Middle Sister, '60.  
Dave & Mose, tug, 10 g. t., b. '73, Buffalo, in com.  
David, H., schr., sunk L. Ont., '55.  
Davidson, Can., schr., 150 g. t., b. '85, Hull, in com.  
Davidson, Fred, Can. tug, 50 n. t., b. '87, Penetang, in com.  
Davidson, James, scow, b. Buffalo, '52.  
Davidson, J., prop., 1,456 t., b. '74, wrecked L. Hur., '83.  
Davidson, Josie, prop., 28 g. t., b. '84, Chicago, in com.  
Davidson, Thomas, prop., 2,226 g. t., b. '88, Milwaukee, in com.  
Davis, Annette, schr., damaged, '72.  
Davis, Charles, prop., 390 g. t., b. '81, Saginaw, in com.  
Davis, C. J., schr., 63 t., b. Sheboygan, '70.  
Davis, Col., tug, burned Marine City, '90.  
Davis, Edward, Can. prop., 37 g. t., b. '87, Quoin, in com.  
Davis, Geo., schr., 245 t., b. Milan, '46.  
Davis, George, schr., wrecked Port Burwell, '63.  
Davis, Geo., schr., 15 g. t., b. '82, Sebawaing, in com.  
Davis, Geo. W., schr., 298 g. t., b. '72, Toledo, founded L. Erie, '95.  
Davis, J. A., schr., capsized off Grand Haven, '68.  
Davis, J. H., schr., 46 g. t., b. '84, Gibraltar, lost L. Hur., '93.  
Davis, John, schr., 125 t., b. Milwaukee, passed out.  
Davis, L. D., sty., 17 g. t., b. '88, Erie, in com.  
Davis, Lizzie T., schr., 15 g. t., later the Argo.  
Davis, Lyman M., schr., 195 g. t., b. '73, Muskegon, in com.  
Davis, Mike, stmr., burned Osceola, '91.  
Davis, Minnie, schr., 173 g. t., b. '62, Dover, Ont., sunk by col., '92.  
Davis, Nettie, schr., ashore Cleveland, '66.  
Davis, P. M., Can. prop., 21 n. t., b. '79, Lachine, in com.  
Davis, R., tug, 28 g. t., later the Fritz Karste.  
Davis, Townsend, 67 g. t., b. '90, Buffalo, in com.  
Davis, U. S., 63 t., b. '69.  
Davis, W. H., Can. schr., sunk L. Erie, '60.  
Davis, W. L., Can. tug, 46 g. t., b. '82, Detroit, in com.  
Davitt, Michael, tug, 24 g. t., b. '85, Buffalo, in com.  
Davy, B. F., schr., 459 t., wrecked Port Colborne, '67.  
Dawn, Can. prop., b. Montreal, '52.  
Dawn, schr., 202 t., b. Milan, sunk by col. L. Erie, '59, 5 lives lost.  
Dawn, Can. prop., 20 g. t., b. '88, Lakefield, in com.  
Dawn, schr., 26 g. t., b. '88, Milwaukee, in com.  
Dawn, sty., 9 g. t., b. '89, Bristol, R. I., in com.  
Day, Daisy, prop., 146 g. t., b. '80, Manistee, wrecked L. Mich., '91.  
Day, Eliza, schr., 139 g. t., b. '69, Green Bay, in com.  
Day, Erastus, tug, 69 g. t., b. '93, Buffalo, in com.  
Day, Lewis, schr., 381 t., b. Chambrea Island, '68.  
Day, Mary A., Can. tug, 45 g. t., b. '77, Buffalo, in com.  
Day Spring, schr., 87 g. t., b. '60, Milan, O., in com.  
Dayton, schr., 85 t., sunk Erie, '46.  
Dayton, prop., 336 t., b. Buffalo, '53.  
Dayton, schr., 462 g. t., b. '71, Marine City, in com.  
Dean, sty., 11 g. t., b. '97, Clayton, in com.  
Dean, J. C., schr., 67 g. t., b. '69, Essex, N. Y., in com.  
Dean, Julia, brig, wrecked Skillagalee, '55.  
Decatur, Can., schr., 49 t., passed out.  
De Coudres, J. P., schr., wrecked Milwaukee, '82.  
Decunick, Chas. L., tug, 41 g. t., b. '72, East Saginaw, passed out, '92.  
De Dondres, Can. schr., sunk Owena, '81.  
Deer, tug, 48 g. t., b. '92, Grand Haven, in com.  
Defender, S., prop., 88 g. t., b. '95, Baltimore, Md., in com.  
Defiance, Can. schr., 26 g. t., b. '45, Etobicoke, in com.  
Defiance, schr., lost with 11 lives L. Ont., '55.  
Defiance, schr., sunk by col. L. Mich., '56.  
Defiance, schr., sunk L. Ont., '84.  
Defiance, Can. schr., 161 n. t., b. '59, Port Hope, in com.  
DeGraff, J. H., tug, 15 g. t., b. '82, Tonawanda, in com.  
DeGrote, bge., stranded Whitefish Point, '71.  
Deland, stcb., 136 g. t., b. '87, Lockport, in com.  
Delaware, stmr., 170 t., b. Huron, O., '33, wrecked near Chicago, '36.  
Delaware, prop., 356 t., b. Charleston, '46, wrecked Sheboygan, '55, 10 lives lost.  
Delaware, prop., b. '47, Black River, O.  
Delaware, prop., wrecked Hammond's bay, '87.  
Delaware, schr., 546 g. t., b. '68, Detroit, in com.  
Delaware, Can. schr., 165 n. t., b. '72, South Bay, in com.  
Delaware, prop., 1,731 g. t., b. '78, Cleveland, in com.  
Delaware, sty., 5 g. t., b. '90, in com.  
Deliah, tug, 16 g. t., b. '88, West Bay City, passed out, '96.  
Delight, schr., in com., '62.  
Delight, Can. prop., 26 g. t., b. '90, Bruce Mines, in com.  
Delisle, Can. tug, 50 n. t., b. '69, Buffalo, in com.  
Della, schr., 8 g. t., b. '90, Rogers City, Mich., in com.



- Dell, Nancy, schr., 106 g. t., b. '79, Port Sheldon, Mich., in com.
- Delta, tug, 47 g. t., b. '83, Saugatuck, in com.
- Delta, schr., 269 g. t., b. '90, Algonac, in com.
- Delta, s. prop., 145 g. t., b. '96, Elizabethport, N. J., in com.
- Democrat, schr., 7 g. t., b. '77, Au Gres, Mich., in com.
- De Molay, Jacques, sail v., b. Liverpool, arrived Toronto, '65.
- Denessen, John, tug, 24 g. t., b. '83, Fort Howard, Wis., in com.
- Denessen, Nettie, prop., 33 g. t., formerly Schiller, b. '84, Fort Howard, Wis., in com.
- Denis Brothers, tug, 45 g. t., b. '81, Green Bay, in com.
- Denis, C. W., Can. tug, 34 n. t., b. '74, Buffalo, in com.
- Denmark, Can. bge., 340 t., b. '63, Garden City, in com.
- Denmark, schr., 230 t., b. '66.
- Denver, schr., 33 g. t., b. '87, Sacket's Harbor, in com.
- Denver, prop., 1,295 g. t., b. '90, Milwaukee, in com.
- Depere, prop., 736 g. t., b. '73, Manitowoc, later the State of Michigan.
- Depuy, Capt. M., steb., 136 g. t., b. '87, Buffalo, passed out, '91.
- Derrick, stdp., 70 g. t., b. '88, Saginaw, in com.
- Deseronto, Can. prop., 44 n. t., b. '80, Deseronto, in com.
- Deshler, J. G., brig, 373 t., b. Cleveland, '54, sailed Europe, '63, and on return name changed to Cressington, sailed again and lost.
- Desmond, prop., 456 g. t., b. Port Puron, in com.
- Desmond, Jennie A., tug, 14 g. t., b. '87, Buffalo, in com.
- Despatch, Can. stmr., 200 g. t., b. '42, Hamilton.
- Despatch, tug, lost Point aux Barques reef, '71.
- Despatch, Can. tug, 49 n. t., b. '73, Buffalo, in com.
- Despatch, sty., 11 g. t., b. '90, Buffalo, in com.
- Dessault, D., stmr., 56 t., b. '86.
- Detroit, slp., 50 t., on L. Erie in 1796, wrecked, 1797, first vessel with American flag on L. Erie in 1796.
- Detroit, British flag-ship in battle L. Erie, b. Amherstburg, '13, 480 t., 19 guns, sunk in Misery bay, raised '33, condemned '39, sent over the Niagara Falls.
- Detroit, 1st, stmr., 240 t., b. Toledo, '33, wrecked on L. Mich., '36.
- Detroit, schr., b. Milwaukee, '37, lost same year off Kenosha.
- Detroit, 2d, stmr., 350 t., b. Newport, '40, sunk, Saginaw bay by col., '54.
- Detroit, schr., wrecked L. Ont., '42.
- Detroit, prop., 290 t., b. Detroit, '45, condemned '63, made barge.
- Detroit, stmr., 1,113 t., b. Buffalo, '59, made prop., '71.
- Detroit, prop., 397 t., b. Cleveland, 61, sunk Saginaw bay, '63.
- Detroit, stmr., b. Algonac, '64, Det. f. b., burned, '75.
- Detroit, Can. bge., 364 n. t., b. '73, Montreal, in com.
- Detroit, prop., later prop. Congress.
- Detroit, schr., 300 t., sunk near Death's Door, '86.
- Detroit, tug, 138 g. t., b. '93, Toledo, in com.
- Devereux, J. H., prop., 1,618 g. t., b. '85, Cleveland, in com.
- Devney, James P., tug, 9 g. t., b. '90, Ashtabula, in com.
- Dewer, John D., prop., 52 g. t., b. '85, Ludington, in com.
- Dewey, A. J., schr., 237 g. t., b. '75, Chaumont, N. Y., passed out, '96.
- De Witt, W. H., schr., damaged by col., '62.
- De Wolf, Delos, schr., 307 g. t., b. '56, Oswego, in com.
- Dexter, tug, 36 g. t., b. '66, Buffalo, in com.
- Dexter, tug, b. Milwaukee, '73.
- Dey, D. P., Can. tug, 21 n. t., b. Buffalo, in com.
- Diamond, schr., 68 t., first v. b. Racine, about '40.
- Diamond, stmr., 336 t., b. Buffalo, '47, broken up.
- Diana, schr., 112 t., on Lake Ont. before 1812, bought by U. S. gov., armed and renamed Hamilton.
- Diana, scow, b. '50, Black River, O.
- Diana, schr., 12 g. t., b. '95, Chicago, in com.
- Dickenson, bge., 371 t., lost off Kewaunee, '86, 3 lives lost.
- Dickenson, D. O., schr., 384 t., b. Milwaukee, '54, lost Green Bay, '69.
- Dickenson, F. M., bge., wrecked near Kewaunee, '85, 3 lives lost.
- Dickinson, Dan, prop., 475 t., burned near Belle Isle, '88.
- Dickinson, Geo. B., tug, sunk Bay City, '86.
- Dickinson, Wm., tug, 78 g. t., b. '93, Benton Harbor, in com.
- Dickson, George B., tug, 32 g. t., b. '76, Buffalo, later the Henry.
- Dictator, prop., b. Buffalo, '64.
- Dictator, bge., sunk L. Erie, '80.
- Die Vernon, schr., wrecked '57, in com. '59.
- Diligence, schr., 32 t., b. L. Erie, '14.
- Dime, stmr., 47 t., b. Buffalo, '55.
- Dimick, Lorenzo, tug, 42 g. t., b. '83, Buffalo, in com.
- Dimmers, C. H., steb., 133 g. t., b. '82, Buffalo, in com.
- Dimmers, George W., steb., 126 g. t., b. '90, Buffalo, in com.
- Dina, tug, bought by U. S. gov., '63, for Mississippi river service.
- Dispatch, stmr., 225 t., b. Detroit, '48, later a tug and broken up Chatham, '60.
- Dispatch, tug, burned, Sandusky, '67.
- Dixie, scow, burned St. Clair r., '75.
- Dixie, Can. tug, 32 n. t., b. '88, Port Robinson, in com.
- Dixie, sty., 14 g. t., b. '89, Detroit, in com.
- Dixie, schr., 8 g. t., b. '93, South Haven, in com.
- Dix, John A., stmr., 529 g. t., b. '65, Tonowanda, in com.
- Dixon, C. K., 149 t., b. '69.
- Dixon, David, schr., 26 g. t., b. '92, Detroit, in com.
- Dixon, Hiram R., prop., 329 g. t., b. '83, Mystic, Conn., in com.
- Dixon, Marion, schr., in com. '68.
- Dixon, S. O., tug, 29 g. t., b. '92, Manitowoc, in com.
- Doak, Ella, schr., 75 t., b. Pentwater, 68.
- Doak, Kate, schr., 146 t., lost Pere Marquette, with 2 lives, '67.
- Doak, Lizzie, schr., 63 g. t., b. '68, Menekaunee, wrecked L. Mich., '92.
- Doane, J. W., schr., 11 g. t., b. '81, Lorain, in com.
- Doan, W. H., tug, 11 g. t., b. '81, Lorain, in com.
- Dobbins, Anna, tug, sunk near Charities, '86.
- Dobbins, D. P., schr., 448 g. t., b. '63, Cleveland, in com.
- Dobbie & Manwaring, tug, in com., '54.
- Dobbie, Thomas, schr., 322 g. t., formerly Comanche, b. '67, Oswego, in com.
- Dole, Geo. W., stmr., b. Chicago '38, changed to schr., sunk at Buffalo, '56.
- Dollie M., schr., 38 g. t., b. '93, Escanaba, in com.
- Dolphin, schr., on L. Ont. before '12, wrecked L. Ont., '18.
- Dolphin, schr., 75 t., b. Milwaukee, '41, sunk L. Erie, '42.
- Dolphin, schr., 322 t., b. Milwaukee, sunk by col., Straits, '69.
- Dolphins, stmr., formerly Black Hawk, b. Clayton, '34.

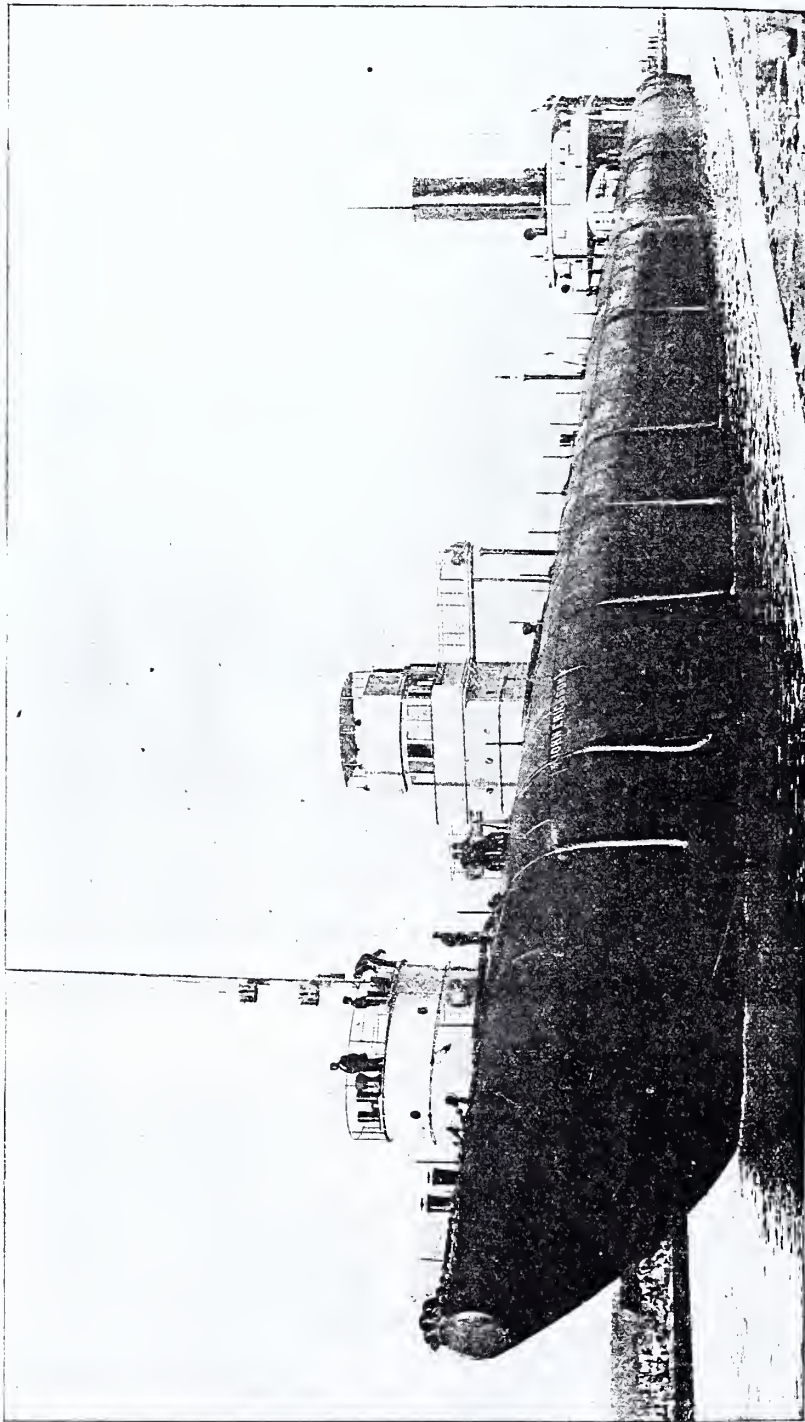


- Dolphin, schr., passed down Ohio canal, Cleveland to New Orleans, '43.  
 Dolphin, stmr., 42 t., b. Detroit, '49.  
 Dolphin, schr., 139 t., b. '55, sunk L. Huron, '87.  
 Dolphin, slp., 26 g. t., b. '66, Canada, in com.  
 Dolphin, schr., capsized near Milwaukee, '70.  
 Dolphin, Can. tug, 20 n. t., b. '71, England, in com.  
 Dolphin, schr., sunk by col., Ludington, '74.  
 Dolphin, Can. tug, 102 n. t., b. '81, Montreal, in com.  
 Dominion, Can. stmr., 221 t., b. Wallaceburg, '63.  
 Dominion, Can. prop., 370 n. t., b. '68, St. Catharines, in com.  
 Dominion, Can. schr., sunk Hamilton, '71, by col.  
 Dominion, stmr., sunk near Buffalo, '75.  
 Dominion, Can. prop., 46 g. t., b. '84, Lindsay, in com.  
 Dominion, Can. sail yt., 6 g. t., b. '82, Cobourg, in com.  
 Dominion, Can. prop., 118 n. t., b. '90, in com.  
 Don, stmr., 40 g. t., b. '92, in com.  
 Donaldson, schr., 420 g. t., b. '67, Buffalo, in com.  
 Donaldson, B., Can. schr., 162 g. t., b. '81, Hull, in com.  
 Donaldson, George S., tug, 13 g. t., b. '83, Buffalo, in com.  
 Donaldson, Jas. P., prop., 521 g. t., b. '80, Marine City, in com.  
 Donnelly, Horace, Can. schr., 158 g. t., b. '79, Hull, in com.  
 Don Quixote, stmr., 80 t., b. Toledo, '36, wrecked L. Hur., '36.  
 Door, G. J., tug, 26 g. t., formerly Gertrude.  
 Dora, Can. prop., 48 g. t., b. '89, Openican, in com.  
 Dora, slp., 14 g. t., b. '93, Michigan City, in com.  
 Doran B., schr., foundered L. Ont., '68.  
 Dorchester, Can. bge., 427 g. t., b. '73, Quebec, in com.  
 Dormer, Grace, prop., 65 g. t., b. '68, Buffalo, in com.  
 Dorothy, Can. prop., 10 g. t., b. '88, Kingston, in com.  
 Dorr, Anna P., tug, 44 t., b. '70, sunk near Dunkirk, '88.  
 Dorr, E. P., schr., 293 t., b. Chicago, '61, injured by water spout, '61.  
 Dorr, E. P., tug, sunk by col. Saginaw bay, '56.  
 Dorr, G. J., tug, 26 g. t., b. '85, Saugatuck, in com.  
 Dortha, Can. prop., 53 n. t., b. '94, Hamilton, in com., formerly Lizzie.  
 Dot, schr., 300 t., b. '65, sunk Grand Morais, '83.  
 Doty, L. R., prop., 2,056 g. t., b. '93, West Bay City, foundered L. Mich., '98, with entire crew.  
 Doty, Susan C., Can. tug, 40 n. t., b. '88, Goderich, in com.  
 Doud, Reuben, schr., 324 g. t., b. '73, Winneconne, Wis., in com.  
 Dougall, John, Can. brig, bilged L. St. Clair, '44.  
 Douglas, E. T., stcb., 137 g. t., b. '95, Buffalo, in com.  
 Douglas, George, Can. prop., 42 g. t., b. '80, Thorold, in com.  
 Douglas, Sir James, Can. prop., 163 g. t., b. '84, Victoria, in com.  
 Douglass, Henry, sty., 20 g. t., b. '85, New York, later the Caprice.  
 Douglass, prop., 278 g. t., b. '82, Saugatuck, in com.  
 Douglass, tug, 97 g. t., b. '88, Toledo, in com.  
 Douglass, E., stmr., 107 g. t., b. '96, in com.  
 Douglass, Stephen A., schr., 360 t., b. Sacket's Harbor, '59, lost L. Mich., '62.  
 Dousman, G. D., schr., 276 g. t., b. '57, Cleveland, passed out, '94.  
 Dousman, M., schr., 86 t., b. Milwaukee, '43, sunk Dunkirk, '52.  
 Dousman, Nancy, schr., 130 t., b. '33, Black River, O., wrecked Mackinaw, '34.  
 Dousman, Rose, schr., 133 t., lost near Buffalo, '67, with 3 lives.  
 Dove, Can. gunboat, b. '14, York, broken up.  
 Dove, stmr., 440 g. t., b. '67, Trenton, burned Toledo, '97.  
 Dover, stmr., 81 t., b. Port Dover, '50, wrecked near Port Dover, '55.  
 Dow, George, Can. schr., 155 g. t., b. '75, Port Rowan, in com.  
 Dowling, Tom, tug, 36 g. t., b. '73, Cleveland, in com.  
 Dow, Neal H., prop., 10 g. t., b. '89, Buffalo, in com.  
 Downey, Nellie P., schr., sunk L. Ont., '84.  
 Downey, Robert, tug, 25 g. t., b. '93, Buffalo, in com.  
 Downey, Tom, schr., burned L. Ont., '69.  
 Downing, Jack, stmr., 80 t., b. Sandusky, '34, made into vessel.  
 Downing, Madeline T., schr., 274 g. t., formerly Mary Copley, b. '73, Chaumont, N. Y., in com.  
 Downing, Major Jack, stmr., 45 t., b. Erie, '34.  
 Downs, Kittie, tug, 34 g. t., b. '90, Ashtabula, in com.  
 Dows, David, schr., 1,481 t., b. Toledo, '82, wrecked near Chicago, '89.  
 Doyle, Tim, Can. tug, 20 n. t., b. '76, Buffalo, in com.  
 Dragon, tug, 28 g. t., b. '66, Buffalo, in com.  
 Drake, schr., b. '55, Black River, O.  
 Drake, Ben, tug, sunk, Peshtigo, '82.  
 Drake, John H., schr., 350 t., wrecked L. Mich., '69, lost '72.  
 Drake, L. W., schr., 456 g. t., b. '81, Bay City, in com.  
 Drake, M. M., tug, 13 g. t., b. '79, Buffalo, in com.  
 Drake, M. M., prop., 1,102 g. t., b. '82, Buffalo, in com.  
 Dreadnaught, schr., 59 g. t., b. '67, Detroit, passed out, '93.  
 Dreadnaught, schr., wrecked Grand island, L. Sup., '70.  
 Dreadnaught, schr., 104 g. t., b. '77, dismantled.  
 Dreadnaught, schr., 10 g. t., b. '77, Saginaw, in com.  
 Dreadnaught, schr., 104 g. t., b. '77, Ticonderoga, passed out, '97.  
 Dreadnaught, tug, 31 g. t., b. '81, Cleveland, in com.  
 Dreadnaught, schr., sunk by col. off Point au Gres, '86.  
 Dreadnaught, schr., lost '93, L. Mich.  
 Dream, schr., 80 t., b. Cleveland, '59.  
 Dream, Can. prop., 12 g. t., b. '86, Kingston, in com.  
 Dresden, Josephine, schr., 84 g. t., b. '52, Michigan City, in com.  
 Drew, George C., schr., b. before '50, wrecked L. Hur. '66.  
 Drew, Susan, schr., passed out.  
 Drift, schr., ashore, Manitowoc, '43.  
 Driver, schr., 137 g. t., b. '56, Milwaukee, in com.  
 Dromedary, prop., burned L. Ont., '82.  
 Druid, Can. prop., 239 g. t., b. '56, Glasgow, in com.  
 Druid, slpy., 16 g. t., b. '85, Chicago, in com.  
 Drummond, Brit. schr., captured by U. S., L. Ont., '13.  
 Drummond, Jesse, Can. prop., 292 g. t., b. '65, St. Catharines, in com.  
 Dubuque, prop., 384 t., b. Buffalo, '57.  
 Duchess, tug, 30 g. t., b. '87, Geneva, N. Y., in com.  
 Duchess of York, Can. stmr., 347 n. t., b. '95, Montreal, in com.  
 Dude, slp., 5 t., b. L. Ont., '85.  
 Dudley, F., Can. schr., 154 g. t., b. '79, Hull, in com.  
 Dudley, Herbert, Can. schr., 283 n. t., b. '61, St. Catharines, in com.  
 Dudley, Joe D., tug, 38 g. t., b. '65, Buffalo, in com.  
 Duff, Nellie A., schr., 54 g. t., b. '85, Port Clinton, lost off Lorain, '95, 3 lives lost.  
 Du Fond, Amable, Can. sty., 17 g. t., b. '94, Arnprior in com.  
 Duke, schr., lost L. Ont., '54, 4 lives lost.  
 Duke of Gloucester, Brit. v., 14 guns, L. Ont., '12.

- Duke of Kent, Can. gunboat, b. about 1776, Navy Point.
- Duke of Kent, Can. gov. schr., b. L. Ont., before 1803.
- Duke of Wellington, Can. schr., 133 t., b. '20.
- Duluth, Can. bge., 364 n. t., b. '73, Quebec, in com.
- Duluth, prop., 247 g. t., b. '90, Cleveland, in com.
- Dunbar, C. F., Can. tug, 40 n. t., b. '89, Erie, in com.
- Dunbar, C. F., tug, b. Buffalo, '98.
- Dunbar, Geo., tug, 238 g. t., b. '67, Allegan, in com.
- Dunbar, Robert, tug, 11 g. t., b. '67, Buffalo, in com.
- Duncan City, schr., 325 t., lost, '88.
- Duncan City, tug, 179 g. t., b. '83, Manitowoc, in com.
- Duncan, John, prop., 1,267 g. t., b. '91, Green Bay, in com.
- Duncan, Maggie, prop., 535 g. t., b. '90, Fort Howard, in com.
- Dundee, Can. schr., 262 n. t., b. '70, St. Catharines, in com.
- Dundee, schr., 1,043 g. t., b. '93, West Bay City, in com.
- Dunderburg, schr., sunk L. Hur., '68, by col.
- Dune, tug, b. Buffalo, '55.
- Dunford, Fred J., schr., 273 g. t., b. '73, Port Huron, in com.
- Dunham, Can. scow, lost L. Erie, '71, with all hands.
- Dunham, M. M., schr., 106 g. t., b. '69, St. Joseph, in com.
- Dunham, Robbie, tug, 34 g. t., b. '81, Chicago, in com.
- Dunham, Wm. H., schr., 184 g. t., b. '73, Eastmanville, Mich., in com.
- Dunkirk, schr., wrecked Cattaraugus creek, '29.
- Dunlap, Geo. L., stmr., 358 t., b. Green Bay, '64.
- Dun, Mary, schr., 31 g. t., b. '86, Menominee, in com.
- Dunmore, English schr., 106 t., b. Detroit, 1772.
- Dunmore, Can. bge., 675 n. t., b. '95, Kingston, in com.
- Dunn, S. H., Can. schr., 535 n. t., b. '77, South Bay, in com., formerly W. R. Taylor.
- Durant, stcb., 132 g. t., b. '79, Havana, N.Y., in com.
- Durham, M. L., 116 t., b. '69.
- Durkee, G. R., schr., 25 g. t., b. '87, Sebawaing, in com.
- Duro, stpd., 11 g. t., b. '94, Cleveland, in com.
- Durr, Mav, prop., 583 g. t., b. '88, Milwaukee, later the John Spry.
- Dussault, D., tug, 56 g. t., b. '86, Sandusky, in com.
- Dutton, A. P., schr., foundered L. Mich., '69, 4 lives lost.
- Duvall, J., 131, g. t., b. '74, Manitowoc, in com.
- Dyer, George H., prop., 1,372 g. t., b. '88, Milwaukee, in com.
- Dyer, Tom, schr., sunk L. Erie, '57.
- Dykes, Mary E., schr., 44 g. t., b. '97, Eastmanville, Mich., in com.
- Eagan, Wiley M., prop., 1,677 g. t., b. '87, Cleveland, passed out, '91.
- Eagle, on L. Ontario before 1809.
- Eagle, schr., sunk off Long Point, '20.
- Eagle, schr., 130 g. t., b. '27, Perrysburg, O.
- Eagle, schr., wrecked L. Erie, '38.
- Eagle, schr., total loss Sandusky, '52.
- Eagle, schr., capsized L. Mich., '48, 7 lives lost.
- Eagle, J. E., tug, burned near Bay City, '69.
- Eagle, Can. bge., 344 n. t., b. '72, Quebec, in com.
- Eagle, Can. prop., 14 g. t., b. '75, Buffalo, in com.
- Eagle, tug, 21 g. t., b. Onekama, Mich., '87, in com.
- Eagle, Can. prop., 12 g. t., b. '97, Collingwood, in com.
- Eagle Wing, schr., 356 t., total loss, '69.
- Eagle Wing, schr., sunk off Bar Point, '78.
- Eagle Wing, schr., 11 g. t., b. '89, Bay City, passed out, '97.
- Eagle Wing, schr., 265 g. t., b. '56, in com.
- Earl, Can. tug, 35 n. t., b. '93, Wallaceburg, in com.
- Earl, Hattie, schr., 100 g. t., b. '69, South Haven, wrecked L. Mich., '93.
- Earl of Cathcart, Can. prop., b. Malden, '46.
- Earl of Cleveland, schr., ashore Kelley's island, '67.
- Earl of Moira, 262 t., Brit. v., 14 guns, on L. Ont., '12, later the Star.
- Early Bird, schr., 28 g. t., b. '74, Eastmanville, Mich., passed out, '97.
- Early, Margaret, schr., 11 g. t., b. '79, St. James, Mich., in com.
- Earnest, J. R., s. lighter, 50 g. t., b. '82, Berlin, O., in com.
- Earnshaw, F. O., tug, 33 g. t., b. '86, Saugatuck.
- Earny, schr., 35 g. t., b. '97, in com.
- Eason, Sarah J., schr., ashore Long Point, '52.
- East, prop., in com. '68.
- Easton, Hiram, Can. tug, 40 n. t., b. '80, Merrickville, in com.
- Easton, R. P., prop., 19 g. t., b. '96, Saugatuck, in com.
- Easton, R. P., tug, 12 g. t., b. '75, Muskegon, passed out, '96.
- East Saginaw, prop., 350 t., b. '66, lost L. Hur., '83.
- Eaton, A., tug, 14 g. t., b. '72, Milwaukee.
- Eaton, Barney, schr., 166 t., lost with 3 lives L. Mich., '67.
- Ebenezer, schr., 157 g. t., formerly Watts Sherman, b. '47, Buffalo, in com.
- Ebenezer, schr., 39 g. t., b. '90, Ephraim, Wis., in com.
- Eccles, Katie, Can. sch., 122 g. t., b. '77, Deseronto, in com.
- Eccles, Maud, in com. '79.
- Echo, Can. schr., lost L. Ont., '61.
- Echo, schr., 41 t., capsized off Charlotte, '69.
- Echo, Can. schr., 78 n. t., b. '54, Port Nelson, in com.
- Echo, schr., 253 t., b. Milan, '54.
- Echo, Can. prop., 6 g. t., b. '82, Brockville, in com.
- Echo, prop., 15 g. t., b. '92, Benton Harbor, in com.
- E. C. L., bark, damaged at Cleveland, '55.
- Eclipse, schr., 58 t., b. Vermilion, '23.
- Eclipse, stmr., b. '37, formerly the Adelaide.
- Eclipse, Can. schr., 400 g. t., b. '43, Niagara changed to schooner.
- Eclipse, prop., 620 t., b. Buffalo, '57.
- Eclipse, Can. stmr., formerly Commerce.
- Eclipse, schr., burned in Chicago fire, '71.
- Eclipse, tug, burned Lakeport, L. Ont., '71.
- Eclipse, schr., wrecked L. Mich., '82.
- Eclipse, tug, 74 t., b. '78, foundered L. Erie, '83, 7 lives lost.
- Eddie, schr., 30 g. t., b. '92, Mt. Clemens, in com.
- Eddy, Charles A., prop., 2,075 g. t., b. '89, Detroit, in com.
- Eddy, E. B., Can. tug, 137 n. t., b. '81, Hull, in com.
- Eddy, Edwin, tug, 36 g. t., b. '78, Buffalo, passed out, '95.
- Eddy, Ella Clarissa, Can. schr., 141 g. t., b. '81, Hull, in com.
- Eddy, John F., prop., 1,678 g. t., b. '86, Detroit, in com.
- Eddy, Lulu, sty., 19 g. t., b. '88, West Bay City.
- Eddy, Newell A., schr., 1,270 g. t., b. '90, West Bay City, lost L. Hur., with all hands, '93.
- Eddy, Selwyn, s. prop., 2,846 g. t., b. '93, Wyandotte, in com.
- Eden, Mary, scow, capsized L. Mich., '70.
- Edith, prop., 545 t., in com. '52, passed out.
- Edith May, Can. prop., 45 g. t., b. '87, Port Sandfield, in com.
- Edmond, Can. tug, 39 n. t., b. '79, Bedford Mills, in com.







STEEL WHALEBACK STEAMER JOHN ERICSSON.

- Edmonds, Thomas, sty., 23 g. t., b. '88, Buffalo, passed out, '97.
- Edna, schr., 53 g. t., b. '62, New Baltimore, Mich., in com.
- Edna G., prop., 154 g. t., b. '96, Cleveland, in com.
- Edson, C. R., tug, 29 g. t., b. '89, Cleveland, in com.
- Edson, John M., stpd., 20 g. t., b. '89, Sandusky, in com.
- Edwards, D. F., tug, in com., '75.
- Edwards, Frank, tug, 39 g. t., b. '90, Grand Haven, in com.
- Edwards, J. R., schr., 435 g. t., b. '83, Marine City, in com.
- Edwards, J. T., tug, b. '66.
- Edwards, Stewart, tug, 15 g. t., b. '76, Grand Haven, in com.
- Edwards, W. C., Can. schr., 154 g. t., b. '80, Ottawa, in com.
- Edwards, William, prop., 1,272 g. t., b. '79, Abbots Bridge, O., in com.
- Effie B., tug, 51 g. t., b. '96, Ashtabula, in com.
- Effie L., tug, 36 g. t., b. '75, Cleveland, in com.
- Effort, schr., 55 t., b. Erie.
- Effort, Can. bge., 51 g. t., b. '89, Wallaceburg, in com.
- Egan, Marion, schr., sunk by col., '75.
- Egan, Wiley M., prop., 1,677 g. t., b. '87, Cleveland, in com.
- Eggers, John, 25 g. t., b. '87, Milwaukee, in com.
- Egyptian, schr., lost Pt. Pelee, L. Erie, '56.
- Egyptian, Can. stmr., 350 g. t., b. '73, Montreal, sold to U. S. owners.
- Egyptian, prop., sunk by col., L. Erie, '87.
- Egyptian, prop., 1,429 g. t., b. '73, Black River, O., burned L. Hur., '97.
- Eighth Ohio, prop., 106 g. t., b. '67, Sandusky, in com.
- Eileen, Can. sty., 11 g. t., b. '93, Moose Creek, in com.
- Elbe, schr., 57 t., b. Cleveland, '45, sunk L. Mich., '68, by col.
- Elbe, schr., damaged by col., '83.
- Eldorado, bge., foundered near Erie, '80.
- Eldorado, 96 g. t., b. '93, Buffalo, in com.
- Eldredge, Addie, schr., 30 t., sunk South Haven, '85.
- Eleanor, schr., b. L. Erie before '12.
- Eleanor, schr., wrecked, L. Ont., '48.
- Eleanor, tug, sunk off Pigeon island, '91.
- Eleanor, schr., 421 g. t., b. '85, Mt. Clemens, in com.
- Eleanor, sty., 20 g. t., b. '95, Rochester, in com.
- Eleanor, schr., 225 g. t., b. '96, Buffalo, passed out, '97.
- Eleanor, tug, 17 g. t., b. '97, Saugatuck, in com.
- Electric, Can. prop., 23 g. t., b. '87, Toronto, in com.
- Elenora, bark, wrecked Hamilton, '48.
- Elfin, Can. prop., now the Can. prop. Julia.
- Elfin Mere, prop., 1,054 g. t., b. '87, West Bay City, in com.
- Elfrida, s. prop., 122 g. t., b. '89, Wilmington, Del., in com.
- E. L. G., schr., 13 g. t., b. '90, Charlotte, N. Y., in com.
- Elgin, Can. schr., 330 g. t., b. '74, St. Catharines, in com.
- Elgin, Can. schr., name changed to Oakland, '85.
- Elgin, Can. tug, 16 n. t., b. '90, Port Elgin, in com.
- Elgin, Can. tug, 16 g. t., broken up, '97.
- Elgin, Wm., schr., 275 t., lost, '88.
- Elida, schr., 192 g. t., b. '63, Milwaukee, in com.
- Elida, Can. sty., 53 n. t., b. '91, New Glasgow, in com.
- Elite, Can. tug, 22 g. t., b. '94, Goderich, in com.
- Eliza, schr., 23 t., b. prior to '34.
- Eliza, schr., capsized near Milwaukee, '83.
- Eliza, schr., 30 g. t., b. '68, Spring Lake, Mich., passed out, '91.
- Eliza, schr., 170 g. t., b. '68, Bangor, Mich., passed out, '93.
- Eliza, prop., 15 g. t., b. '92, Grand Marais, in com.
- Eliza Caroline, schr., ashore L. Erie, '71.
- Elizabeth, Can. v., b. Missisaga Point, '08.
- Elizabeth, schr., lost near Conneaut, '20, several lives lost.
- Elizabeth, schr., 27 t., burned L. Ont., '52.
- Elizabeth, schr., sunk L. Ont., '57.
- Elizabeth, schr., 24 g. t., b. '67, Erin, Mich., in com.
- Elizabeth, bge., b. Smith's Falls, '69.
- Elizabeth, sty., 9 g. t., b. '79, Buffalo, passed out, '94.
- Elizabeth, tug, 9 g. t., b. '79, in com.
- Elizabeth, schr., 9 g. t., b. '87, Milwaukee, in com.
- Elizabeth, schooner, 25 g. t., b. '87, Sturgeon Bay, in com.
- Elizabeth G., tug, 25 g. t., b. '92, Manistee, in com.
- Eliza May, Can. schr., 850 t., sailed Kingston to Liverpool, '54.
- Elk, Can. schr., 180 g. t., b. '56, Port Robinson, in com.
- Elk, tug, 57 g. t., b. '92, Grand Rapids, in com.
- Elk, sty., 9 g. t., b. '93, in com.
- Ella, prop., 15 g. t., b. '74, Poughkeepsie, in com.
- Ella B., tug, 9 g. t., b. '82, Buffalo, passed out, '95.
- Ella G., prop., 116 g. t., b. '82, Pt. Clinton, O., in com.
- Ella H., sty., 26 g. t., b. '84, Buffalo, in com.
- Ellen, schr., 61 t., wrecked L. Ont., '48, 8 lives lost.
- Ellen, schr., sunk, Thunder bay, '56.
- Ellen, prop., 349 g. t., b. '93, Milwaukee, in com.
- Ellen, schr., 37 g. t., b. '96, Pinconning, Mich., in com.
- Ellen G., schr., 86 g. t., b. '54, Detroit, in com.
- Ellen Gertrude, prop., 15 g. t., b. '96, Harbor Springs, Mich., in com.
- Ellida, prop., sunk by col., Duluth, '93.
- Ellington, schr., 190 t., b. Vermilion, sunk near Toledo by col., '69.
- Ellinwood, Ella, schr., 157 g. t., b. '69, East Saginaw, in com.
- Elliot, R. R., stmr., 321 t., b. Newport, '54, dismantled '66, made a bge.
- Elliott, bge., 184 t., lost off Port Burwell, '72.
- Elliott, Clara A., tug, 21 g. t., b. '82, Saugatuck, in com.
- Elliott, Kittie, schr., 12 g. t., b. '90, Au Sable, Mich., passed out, '97.
- Ellis, Mary, Can. schr., 59 g. t., b. '55, Bronte, in com.
- Ellis, O. A., tug, 39 g. t., b. '86, Oconto, Wis., in com.
- Ellsworth, Col. schr., 318 g. t., b. '61, Euclid, wrecked Whitefish Point, '95.
- Ellsworth, Lem, schr., 340 g. t., b. '74, Milwaukee, foundered L. Mich., '94, 7 lives lost.
- Ellsworth, S. S., 113 t., b. '69.
- Elm, Can. bge., 146 g. t., b. '73, Kingston, in com.
- Elma, schr., 400 g. t., b. '73, Marine City, wrecked L. Sup., '95, 1 life lost.
- Elma, sty., 30 g. t., b. '97, Buffalo, in com.
- Elm City, schr., burned Erie, '66.
- Elmer, Can. tug, 45 n. t., b. '77, St. Catharines, in com.
- Elmer, tug, 31 g. t., b. '82, Mt. Clemens, in com.
- Elmira, scow, b. '52, Black River, O., sunk Erie, '55.
- Elmira, schr., lost L. Ont., '66.
- Elmira, schr., 296 t., b. Sacket's Harbor, '68.
- Elmira, prop., about 600 t., b. Cleveland, '56.
- Elphicke, C. W., prop., 2,058 g. t., b. '89, Trenton, Mich., in com.
- Elphicke, C. W., tug, 43 g. t., b. '89, Saugatuck, in com.
- Elsa, tug, 33 g. t., b. '95, Sandusky, in com.
- Elsa M., tug, 14 g. t., b. '93, Oshkosh, in com.
- Elsie, I. C., Can. tug, 33 g. t., b. '93, Waubesa, in com.
- Elva, schr., 69 g. t., b. '62, Port Huron, in com.
- Elva, sty., 81 g. t., b. '89, Chicago, in com.



- Elvina, schr., 296 g. t., b. '68, Sacket's Harbor, in com.
- Ely, Geo. H., bge., total loss, near Detour, '82.
- Elyna, schr., 100 t., b. Black River, O., '67, wrecked Erie, '70, 2 lives lost.
- Ely, Samuel P., schr., 627 g. t., b. '69, Detroit, wrecked L. Sup., '96.
- Emary, Can. schr., 79 g. t., b. '77, Ticonderoga, in com.
- E. M. B. A., tug, 4 g. t., in com.
- E. M. B. A., tug, 99 g. t., b. '91, Grand Haven, Mich., in com.
- Emblem, schr., sunk Long Point, '55.
- Emeline, schr., 127 g. t., b. '64, Detroit, wrecked L. Mich., '96.
- Emeline, prop., 52 g. t., b. '90, Wenona, Mich., passed out, '91.
- Emerald, schr., on L. Erie, '31.
- Emerald, stmr., 250 t., b. Chippewa, '44, sunk Bear Creek, '58.
- Emerald, brig, b. '44, Black River, O.
- Emerald, stmr., sunk, St. Clair flats, '55.
- Emerald, bge., sunk Saginaw r., '80.
- Emerald, bge., 272 t., lost off Keweenaw, '86, 5 lives lost.
- Emerald, Can. schr., 394 n.t., b. '72, Port Colborne, in com.
- Emerald, tug, 215 g.t., b. '62, Algonac, in com.
- Emerald, schr., 286 g.t., b. '69, Saginaw, in com.
- Emillion, Can. tug, 15 g.t., b. '83, Three Rivers, in com.
- Emerson, Geo., tug, 35 g.t., b. '84, Buffalo, in com.
- Emery, H. A., schr., 67 g.t., b. '87, West Bay City, in com.
- Emery, Temple, tug, 155 g.t., b. '86, West Bay City, in com.
- Emery, W. Y., Can. schr., 234 n.t., b. '67, Port Burwell, in com.
- Emeu, schr., 550 t., sunk Tawas bay, '75, lost, '88, L. Hur.
- Emigrant, prop., 275 t., b. Cleveland, '43, altered to a brig, '45, lost Avon Pt., same year.
- Emila, stmr., 15 g. t., b. '83, in com.
- Emile, Can. prop., 25 n. t., b. '92, Ottawa, in com.
- Emilie, H. N., schr., 37 g. t., b. '91, Grand Marais, in com.
- Emily, schr., lost L. St. Clair, '30, 7 lives lost.
- Emily, Can. schr., 50 t., b. Goderich, passed out.
- Emily, schr., 109 t., wrecked Grand River, Ont., '52.
- Emily, schr., foundered L. Mich., '57, 5 lives lost.
- Emily, Can. scow, 29 g. t., b. '90, Belle River, in com.
- Emily and Eliza, schr., 63 g. t., b. '74, Oak Harbor, O., in com.
- Emily, C., schr., wrecked Georgian Bay, '58.
- Emily May, Can. stmr., 362 g. t., b. '61, Belle Ewart, in com.
- Emily May, Can. schr., b. '61, Orillia.
- Emily May, Can. slp., 36 g. t., b. '79, Dog Lake, in com.
- Emily, Rhoda, prop., 570 g. t., b. '84, Trenton, in com.
- Emilin, schr., in com., '46, passed out.
- Emma, slp., 42 t., b. Ashtabula, '43.
- Emma, schr., 110 t., b. 53, sunk L. Mich., '83.
- Emma, schr., lost near Blue Point, '69.
- Emma, stcb., 135 g. t., b. '78, Havana, N. Y., passed out, '97.
- Emma, schr., 10 g. t., b. '82, Sand Beach, passed out, '96.
- Emma, schr., 57 g. t., b. '82, Chaumont, N. Y., in com.
- Emma, Can. sty., 6 g. t., b. '94, Hamilton, in com.
- Emma, Can. sty., 75 g. t., b. '94, Collingwood, in com.
- Emma D., slp., 21 g. t., b. '90, Oak Point, N. Y., in com.
- Emma Jane, schr., foundered L. Erie, '64, 7 lives lost.
- Emma V., sty., in com., '89.
- Emmanuel, schr., 23 g. t., b. '90, Fish Creek, Wis., in com.
- Emmett, Robert, schr., 246 t., b. Buffalo, '47.
- Emmett, Robert, tug, 32 g. t., formerly Col. Graham, b. '63, Racine, in com.
- Empire, brig, b. Three Mile Bay, L. Ont., '43, wrecked Oswego, '51.
- Empire, stmr., 1,136 t., b. Cleveland, '44, made prop., lost, '70, Long Point.
- Empire (2d), stmr., 100 t., b. Grand Rapids, '45.
- Empire, Can. stmr., b. about '47, Montreal.
- Empire, bark, wrecked L. Erie, '57, 11 lives lost.
- Empire, prop., 265 g.t., b. '61, Cleveland, passed out, '97.
- Empire, 704 t., b. Detroit, '62.
- Empire, schr., 73 g.t., b. '89, Saratoga, passed out, '95.
- Empire City, s. prop., 4,118 g.t., b. '97, Cleveland, in com.
- Empire State, stmr., 1,700 t., b. St. Clair, '48, made dry-dock at Buffalo, '58.
- Empire State, schr., 298 g.t., b. '54, Buffalo, in com.
- Empire State, schr., total loss, Thunder bay, '77.
- Empire State, prop., 1,116 g.t., b. '62, Buffalo, in com.
- Empire State, stmr., 379 g.t., formerly Sylvan Stream, b. '63, New York, in com.
- Empress, stmr., burned Kingston, '68.
- Empress, Can. stmr., 410 n.t., b. '75, Montreal, in com., formerly Peerless.
- Empress, Can. slp., 71 g.t., b. '76, Seeley's Bay, in com.
- Empress, Can. prop., 36 g. t., b. '91, Sturgeon Falls, in com.
- Empress of India, Can. stmr., 425 n. t., b. '76, Mill Point, in com.
- Empress Victoria, Can. stmr., 106 g. t., b. '94, Huntsville, in com.
- Emulator, Can. prop., 25 g. t., b. '90, Maganetawan, in com.
- Endeavour, Can. bge., 79 g.t., b. '81, Wallaceburg, in com.
- Endora, schr., b. '43, Black river, O.
- Endress, C. W., tug, b. Manitowoc, '98.
- Endress, Bertha, Can. tug, 32 g. t., b. '76, Two Rivers, in com.
- Endress, Richard R., tug, 31 g. t., b. '85, Manitowoc, in com.
- Energy, schr., wrecked, Traverse bay, '54.
- Energy, Can. prop., 99 n. t., b. '83, Wallaceburg, in com.
- Eng, bge., b. East Saginaw, '74.
- England, Can. bge., 341 g. t., b. '63, Brockville, in com.
- England, Can. bge., 448 n. t., b. '66, Brockville, in com.
- Engle, Fred, tug, 21 g. t., b. '75, Milwaukee, in com.
- Englesbe, Loretta, prop., 31 g. t., b. '87, Geneva, N. Y., passed out, '97.
- Englesbe, Loretta, prop., 62 g. t., b. '87, Erie, passed out, '95.
- Enola, sly., 6 g. t., b. '92, in com.
- Enos, Jess, tug, 13 g. t., b. '88, Ashtabula, in com.
- Enquirer, s. sty., 140 g. t., b. '96, Buffalo, in com.
- Enterprise, schr., b. Detroit, 1769, first craft known to have been built in that city.
- Enterprise, 1st stmr., 250 t., b. Cleveland, '26, wrecked.
- Enterprise, Can. schr., 200 g. t., b. '34, Kingston, broken up.
- Enterprise, slp., 19 t., b. Detroit, '43.
- Enterprise, brig, 207 t., b. Grand Rapids, '45.
- Enterprise, stmr., 100 t., b. Green Bay, '45.



- Enterprise, scow, lost L. Hur., '61.  
 Enterprise, Can. scow, 136 g. t., b. '63, Port Robinson, in com.  
 Enterprise, Can. prop., 620 t., b. St. Catharines, '64, wrecked, L. Hur., '94, now the Norseman.  
 Enterprise, Can. schr., 16 g. t., b. '64, Long Point, in com.  
 Enterprise, Can. prop., 60 g. t., b. '69, Carleton Place, in com.  
 Enterprise, Can. prop., 148 g. t., b. '69, Rama, in com.  
 Enterprise, Can. schr., 105 g. t., b. '71, Port Hope, in com.  
 Enterprise, schr., capsized off Racine, '74.  
 Enterprise, stcb. 120 g. t., b. '75, Buffalo, passed out, '94.  
 Enterprise, Can. schr., 14 g. t., b. '80, Kincardine, in com.  
 Enterprise, schr., total loss, West Point, Ont., '82.  
 Enterprise, prop., sunk L. Hur., '83, several lives lost.  
 Enterprise, tug, 21 g. t., b. '88, Cleveland, in com.  
 Enterprise, prop., 80 g. t., b. '88, Erie, lost, '94, L. Hur.  
 Enterprise, Can. tug, 30 n. t., b. '92, Port Bruce, in com.  
 Equator, schr., 132 t., b. Charleston, sunk off Conneaut, '43.  
 Equator, prop., 620 t., b. Buffalo, '57, wrecked North Manitou, '69.  
 Equinox, prop., 620 t., b. Buffalo, '57, sunk L. Mich. with 25 persons, '75.  
 Ericsson, John, s. prop., 3,201 g. t., b. '96, West Superior, in com.  
 Erie, sloop, b. Black Rock, '10, captured Mackinaw, '12, by British.  
 Erie, schr., 80 t., b. Black Rock, '16.  
 Erie, schr., 62 t., b. Buffalo, '33, as U. S. rev. cut. Lewis McLane, sunk off Marblehead, '72.  
 Erie, brig, b. '36, Black River, O.  
 Erie, stmr., 497 t., b. Erie, '37, burned off Silver Creek, '41, 250 lives lost.  
 Erie, stmr., sunk off Port Huron by collision with ice, '42.  
 Erie, slp., foundered L. Mich., '43, 6 lives lost.  
 Erie, schr., sunk by col. near Sandusky, '51.  
 Erie, tug, 57 g. t., b. '76, Buffalo, in com.  
 Erie, bge., total loss at Hamburg, '78.  
 Erie, Can. bge., 307 n. t., b. '71, Quebec, in com.  
 Erie, tug, 21 g. t., b. '88, Sandusky, in com.  
 Erie, tug, 43 g. t., b. '97, Detroit, in com.  
 Erie Belle, Can. tug, 292 t., b. '62, boiler exploded Kincardine, '83, killing 4 persons.  
 Erie Belle, Can. schr., 354 n. t., b. '73, Port Burwell, in com.  
 Erie Packet, b. Fort Erie, 1796.  
 Erie Packet, schr., 33 t., b. Erie, '23.  
 Erie Queen, schr., sunk Oswego, '81.  
 Erie Queen, schr., 192 g. t., later the Chas. C. Buell.  
 Erie Queen, Can. schr., 217 g. t., b. '74, Port Rowan, in com.  
 Erie Stewart, Can. schr., 303 n. t., b. '74, Port Dover, in com.  
 Erie Wave, schr., 263 t., capsized L. Erie, '85.  
 Erie Wave, Can. schr., capsized L. Erie, '89, 8 lives lost.  
 Erin, Can. schr., in com., '52.  
 Erin, Can. prop., 551 n. t., b. '81, St. Catharines, in com.  
 Erna, tug, 14 g. t., b. '94, Benton Harbor, in com.  
 Erwin, schr., in com., '49.  
 Erwin, tug, 16 g. t., b. '86, Lorain, in com.  
 Erwin, Bessie B., bark, b. '66.  
 Erwin, John, schr., b. '45, Black River, O.  
 Escanaba, schr., 414 t., b. '66, foundered L. Erie, '83.  
 Escanaba, stmr., lost '94, L. Hur.  
 Escanaba, prop., 1,160 g. t., b. '81, Gibraltar, Mich., in com.  
 Eschbacher, Frank P., tug, 14 g. t., b. '89, Fairport, in com.  
 Escort, stmr., 21 g. t., b. '92, in com.  
 Escort, Can. tug, 55 n. t., b. '94, Port Colborne, in com.  
 E. S. G., Can. bark, b. Port Stanley, '77.  
 Espendola, schr., 50 t., b. Manitowoc, '69.  
 Esperanza, Can. sail yt., 17 g. t., b. '76, Buffalo, in com.  
 Espinola, schr., total wreck Chicago, '82.  
 Essen, s. ligh'r, 335 g. t., b. '92, Cleveland, in com.  
 Essex, schr., b. before '39, wrecked on Bass island, '48.  
 Essex, schr., b. Bay City, '60.  
 Essex, Can. prop., 142 g. t., b. '60, Walkerville, in com.  
 Essex, slp., 45 g. t., b. '66, Essex, N. Y., in com.  
 Essex, schr., 25 g. t., b. '76, Port Huron, in com.  
 Estalla, Can. prop., 9 g. t., b. '91, Parry Sound, in com.  
 Estell, Hattie A., schr., 310 g. t., b. '72, Manitowoc, lost L. Mich., '91, 3 lives lost.  
 Estelle, tug, 34 g. t., b. '74, Watkins, N. Y., in com.  
 Esturion, Can. prop., 118 g. t., b. '84, Bobcaygeon, in com.  
 Ethel, slpy., 14 g. t., b. '75, Jersey City, in com.  
 Ethel J., prop., 21 g. t., b. '84, Fairport, in com.  
 Ethel, Can. tug, 20 n. t., b. '87, Collingwood, in com.  
 Ethel, Can. s. tug, 107 n. t., b. '95, Sorel, in com.  
 Etheland, bge., sunk Kingston, '61.  
 Etna, schr., 90 t., b. Silver Creek, '43.  
 Etoile, Can. stmr., 245 n. t., b. '80, Sorel, in com.  
 Etowah, bark, arrived Detroit from Liverpool, '66, sailed Cleveland, b. Liverpool, '68.  
 Etta Belle, schr., sunk L. Ont., '73.  
 Eudora, schr., 133 t., b. Charleston, O., '43, wrecked Dunkirk, '51.  
 Eugene, schr., lost L. Hur.  
 Eugene, schr., wrecked L. Ont.  
 Eugene, schr., 40 g. t., b. '65, Fair Haven, passed out, '95.  
 Eugenia, schr., capsized L. Mich., '84.  
 Eugenie, schr., 38 t., wrecked Peche island, '65.  
 Euna, Can. tug, 12 n. t., b. '78, Mt. Clemens, in com.  
 Euphemia, schr., wrecked L. Mich., '59, 6 lives lost.  
 Euphrates, prop., b. Buffalo, '56.  
 Euphrates, prop., sunk Sandusky, '62.  
 Eureka, brig, 373 t., b. '47, Black River, O.  
 Eureka, bark, 350 t., sailed '49, Cleveland to California.  
 Eureka, Can. schr., 211 t., b. '58, foundered L. Ont. '83.  
 Eureka, slp., wrecked au Sable, '69.  
 Eureka, bge., 314 t., foundered L. Sup., '86.  
 Eureka, schr., 338 g. t., formerly Schilde, b. '72, Hamilton, in com.  
 Europa, Can. schr., 600 t., b. Hamilton, '54, lost L. Ont., '57.  
 Europe, brig, 237 t., wrecked Green bay, '50.  
 Europe, schr., wrecked Chicago, '56.  
 Europe, Can. prop., 300 t., b. St. Catharines, '70.  
 Europe, Can. prop., now the Can. bge., Regina.  
 Eurydice, Can. stmr., 286 n. t., b. '68, Montreal, in com., formerly the Hastings.  
 Eustaphie, A. A., tug, 23 g. t., later the McCormick.  
 Eva, Can. sty., 12 g. t., b. '74, Brockville, in com.  
 Eva, Can., schr., 16 g. t., b. '81, Kingsville, in com.  
 Eva, Can. tug, 33 t., b. Bobcaygeon, Ont., '81, burned Lindsay, Ont., '96.  
 Eva, Can. scow, 14 g. t., b. '91, Montebello, in com.  
 Eva, stmr., 7 g. t., b. '96, in com.  
 Eva Belle, Can. sty., 10 g. t., b. '92, Kingston, in com.  
 Evaline, schr., 235 g. t., b. '61, Blendon Landing, Mich., in com.  
 Evans, tug, 31 g. t., b. '82, in com.  
 Evans, J. C., tug, b. Chicago, '98.  
 Evans, J. J., tug, 14 g. t., b. '81, Tonawanda, in com.  
 Evelyn, schr., 40 g. t., b. '57, Chicago, in com.  
 Evelyn, stmr., 150 g. t., b. '83, Oshkosh, in com.

- Evelyn, Can. tug, 98 n. t., '92, Sandwich, in com.  
 Evelyn, Can. tug, 40 n. t., b. '93, Goderich, in com.  
 Evening Star, stmr., 381 g. t., b. '66, East Saginaw, in com.  
 Evening Star, schr., 214 t., b. '69, Sheboygan, foundered near Chicago, '94.  
 Evening Star, schr., foundered L. Mich., '75, with loss of life.  
 Evening Star, Can. schr., 50 t., b. Ashfield, Ont., '82, wrecked L. Hur., '94.  
 Evenson, J., tug, 32 g. t., b. '84, Milwaukee, sunk by col. near Ahnapee, '95.  
 Even Tide, Can. schr., 15 g. t., b. '66, Port Dover, in com.  
 Everett, schr., wrecked Port Burwell, '57.  
 Everett, A., prop., 1,088 g. t., b. '80, Cleveland, sunk L. Hur., '95.  
 Everett, Mary, Can. schr. 249 n. t., b. '65, Shannonville, in com., formerly the Serepta.  
 Evergreen, schr., 80 t., b. Holland, Mich., '68.  
 Evergreen City, prop., in com., '64.  
 Evergreen City, prop., 797 t., lost Long Point, '71.  
 Everleigh, B., schr., 137 t., b. '66, wrecked Point Pelee, '83.  
 Eviston, J. W., tug, 16 g. t., b. '72, Milwaukee, burned Duluth, '97.  
 Ewen, Frank D., prop., 882 g. t., b. '88, West Bay City, chartered ocean service, '98.  
 Ewing, W. L., tug, 43 g. t., b. '68, Chicago, in com.  
 Excelsior, schr., lost Port Stanley, '62.  
 Excelsior, bark, 552 t., b. Buffalo, '65, lost, '71.  
 Excelsior, schr., 136 t., b. Green Bay, '67, burned Saginaw r., '69.  
 Excelsior, stmr., burned Portsmouth, L. Ont., '69.  
 Excelsior, prop., 229 g. t., b. '76, Detroit, in com.  
 Excelsior, stcb., 92 g. t., b. '82, Lockport, in com.  
 Excelsior, tug, 73 g. t., b. '92, Buffalo, in com.  
 Exchange, schr., 27 g. t., b. '71, Sheboygan, in com.  
 Execution, schr., ashore at Sodus, '62.  
 Exilda, schr., 56 g. t., b. '89, Mt. Clemens, in com.  
 Exile, schr., 387 g. t., b. '67, Milan, in com.  
 Exit, stcb., 136 g. t., b. '81, Lockport, passed out, '91.  
 Experience, schr., ashore Saugatuck, '83.  
 Experiment, schr., 81 t., on L. Ont. before '12, bought that year by U. S. Gov., armed and re-named Growler.  
 Experiment, schr., 30 t., b. Black Rock, '13.  
 Experiment, Can. schr., 150 g. t., b. '37.  
 Experiment, schr., 123 t., b. Detroit, '58.  
 Experiment, bge., 400 t., b. Pigeon River, '63, lost L. Hur., '66.  
 Experiment, schr., wrecked Manitowoc, '64.  
 Experiment, stmr., broken up on Detroit r., before '80.  
 Experiment, schr., 49 g. t., b. '54, St. Joseph, Mich., in com.  
 Explorer, schr., foundered Georgian Bay, '83, 5 lives lost.  
 Explorer, Can. schr., 33 g. t., b. '66, Chatham, in com.  
 Express, slp., wrecked Dunkirk, '35.  
 Express, stmr., 150 t., b. Pultneyville, '38, broken up, '50.  
 Express, schr., 244 t., b. Sheboygan, '64.  
 Express, brg., sunk by col. L. Mich., '78.  
 F. X., schr., 96 g. t., b. '66, Detroit, in com.  
 Fabian, tug, 71 g. t., b. '94, Buffalo, in com.  
 Fabiola, Can. schr., 171 n. t., b. '76, Portsmouth, in com.  
 Fair American, on L. Ont. before '12, bought and armed by U. S. Gov., 2 guns.  
 Fair American, in com. '16, afterwards called Porcupine.  
 Fairbairn, Sir Wm., s. prop., 4,220 g. t., b. '96, Wyandotte, in com.  
 Fairbank, N. K., prop., 980 g. t., b. '74, Marine City, burned, '95.  
 Fair Bella, Can. prop., 7 g. t., b. '81, Bobcaygeon, in com.  
 Fairchild, H. T., schr., 223 t., lost '71.  
 Fairchilds, Col. H. S., bark, damaged, '63.  
 Fairfield, schr., 223 t., in com. '61, wrecked Bailey's Harbor, '69.  
 Fairlina, Can. schr., 17 g. t., b. '81, Kincardine, in com.  
 Fairplay, U. S. revenue cutter, visited Chicago before '19, wrecked Cattaraugus Creek, '29.  
 Fairport, stmr., 250 t., b. Fairport, '38, burned Algonac, '44, rebuilt and called Tecumseh.  
 Fairy, prop., 20 g. t., b. '75, Hancock, Mich., passed out, '92.  
 Fairy, Can. prop., 23 g. t., b. '78, Harwood, in com.  
 Fairy, scow, capsized off Cleveland, '71.  
 Faith, English schr., 61 t., b. Detroit, 1774, carried 10 guns during Rev. war.  
 Falcon, schr., ashore Manistee, '53.  
 Falcon, prop., 563 t., b. '53, Detroit, burned Chicago, '56.  
 Falcon, schr., wrecked Chicago, '66, 4 lives lost.  
 Falcon, scow, total wreck L. Erie, '69.  
 Falcon, Can. tug, b. Kingston '74.  
 Falcon, i. sty., 82 g. t., b. '87, Buffalo, in com.  
 Falconer, Annie, Can. schr., 201 n. t., b. '67, Kingston, in com.  
 Falmouth, schr., foundered Buffalo, '80.  
 Fame, bark, 428 t., wrecked L. Hur., '54.  
 Fame, schr., capsized L. Erie, '58.  
 Fanchon, tug, 13 g. t., b. '79, Grand Island, N. Y., in com.  
 Fancy, schr., 143 t., wrecked L. Mich., '65.  
 Fannie H., sty., 15 g. t., formerly Magna, b. '75, Chicago, in com.  
 Fanny, Can. prop., 5 g. t., b. '78, Owen Sound, in com.  
 Fanny and Floy, schr., in com., '68.  
 Fanny H., prop., 16 g. t., b. '90, West Bay City, in com.  
 Fargo, schr., 20 g. t., b. '80, Sand Beach, in com.  
 Farmer, on L. Ont. before '09.  
 Farmer, schr., b. '30, Conneaut.  
 Farmer, schr., b. '44, Black River, O.  
 Farmer, schr., lost near St. Joseph, '58.  
 Farmer, schr., lost L. Mich., '63.  
 Farmer Boy, schr., 13 g. t., b. '89, Sebewaing, Mich., in com.  
 Farmer's Daughter, schr., in com. about '16.  
 Farnham, Joseph P., prop., burned L. Mich., '89.  
 Farr, Ray S., schr., lost '86, L. Mich.  
 Farragut, tug, 14 g. t., b. '68, Buffalo, in com.  
 Farrar, C. M., tug, 17 g. t., b. '70, sunk Port Huron, '76.  
 Farrington, G. B., prop., 9 g. t., b. '79, Clayton, passed out, '91.  
 Farwell, George, prop., 978 g. t., b. '95, Marine City, in com.  
 Farwell, Jesse H., prop., 1,200 g. t., b. '81, Gibraltar, Mich., in com.  
 Farwell, L. J., schr., 265 g. t., b. '56, Black River, O., in com.  
 Fashion, stmr., 324 t., in com. '46.  
 Fashion, schr., 282 t., b. Huron, '46.  
 Fashion, stmr., 360 t., b. Algonac, '47, lost L. Hur., '56.  
 Fashion, stmr., sunk Keweenaw, '54.  
 Fashion, prop., 48 g. t., b. '89, St. Joseph, in com.  
 Fashion, prop., 29 g. t., b. '93, West Bay City, in com.  
 Fassett, Theodore S., schr., 548 g. t., b. '81, Marine City, in com.  
 Faugh-A-Ballagh, schr., 61 g. t., b. '89, Port Clinton, O.

- Favorite, Can. prop., now Can. prop. City of Parry Sound.
- Favorite, schr., 150 g.t., b. '37, Perrysburg, O.
- Favorite, schr., sunk L. Erie, '45.
- Favorite, tug, 409 g.t., b. '64, Fort Howard, Wis.
- Favorite, schr., 451 g.t., b. '63, Newport, Mich., in com.
- Favorite, tug, 41 g.t., b. '69, Detroit, passed out, '97.
- Favorite, Can. prop., 51 g.t., b. '74, Buffalo, in com.
- Favorite, tug, 31 g.t., b. '79, Chicago, in com.
- Favorite, Can. prop., 491 g.t., b. '89, Meaford, in com.
- Favorite, tug, 9 g.t., b. '94, Vermilion, O., in com.
- Fawn, schr., 30 t., b. Sheboygan, '67, lost L. Mich., '88.
- Fawn, tug, foundered L. Mich., '87.
- Faxton, T. S., prop., 153 g.t., b. '74, Clayton, in com.
- Fay, Joseph S., prop., 1,220 g.t., b. '71, Cleveland, in com.
- Fayette, prop., 322 g.t., b. '72, Cleveland, in com.
- Fayette, Kitty, slp., 24 g.t., b. '68, Northport, Mich., passed out, '97.
- Fearless, schr., 165 g.t., b. '67, Ferrysburg, Mich., in com.
- Fearless, schr., capsized Whitefish Point, '72.
- Fearless, stcb., 101 g.t., b. '78, Lockport, in com.
- Fearless, Can. tug, 30 n.t., b. '86, Iroquois, in com.
- Fearless, prop., 28 g.t., b. '93, Manitowoc, in com.
- Fedora, prop., 1,848 g.t., b. '89, West Bay City, in com.
- Felicitous, schr., 216 g.t., b. '73, Manitowoc, in com.
- Felicity, English slp., 55 t., b. Detroit, 1774.
- Fellow Craft, schr., ashore Bar Point, '73.
- Fellowcraft, Can. schr., 209 g.t., b. '75, Port Burwell, in com.
- Fenian Girl, ferry boat, passed out.
- Ferguson, Can. schr., 36 g.t., b. '68, Port Credit, in com.
- Ferguson, David, schr., 223 g.t., b. '53, Port Huron, in com.
- Fern, prop., 48 g.t., b. '82, Algonac, in com.
- Ferret, schr., 73 g.t., b. '64, Bay City, sunk by col., '95, Toledo.
- Ferret, tug, 74 g.t., b. '64, Bay City, in com.
- Ferris, B. F., stmr., 168 g.t., b. '71, Sandusky, burned, '93, Keweenaw Point.
- Ferris, Charley, tug, 54 g.t., b. '84, Oswego, in com.
- Ferris, E. G., scow, lost '69, L. Mich.
- Ferry, Col., tug, 17 g.t., b. '82, Lake Harbor, Mich., in com.
- Ferry, E. P., tug, 36 g.t., b. '73, Chicago, in com.
- Ferry, Major N. H., schr., 171 g.t., b. '67, Ferrysburg, Mich.
- Ferry, Thomas W., schr., b. Cleveland, '72.
- Ferry, T. W., tug, 27 g.t., b. '75, Grand Haven, in com.
- Fessenden, rev. cut., in com., '71.
- Fiat, schr., 38 g.t., b. '80, Ellisburg, N. Y., in com.
- Fick, C. L., schr., 89 g.t., b. '67, Trenton, Mich., wrecked L. Mich., '94.
- Fick, Wm., schr., lost, '71.
- Fidelia, Can. sty., 9 g.t., b. Kingston, '97, in com.
- Fidelity, schr., abandoned, '60.
- Field, Justice, tug, formerly Bismark, 285 g.t., b. '71, Sheboygan, now the Traveler.
- Field, O. M., tug, 29 g.t., formerly Cora Fuller, b. '82, Muskegon, in com.
- Fields, A. S., tug, 115 t., b. Buffalo, '53, exploded, Detroit, 5 lives lost.
- Filer, D. L., schr., 357 g.t., b. '71, Manistee, abandoned L. Mich., '98.
- Filer, Grace M., schr., 237 g.t., b. '74, Chicago, in com.
- Filgate, Can. stmr., 291 n.t., b. '79, Montreal, in com.
- Fillmore, Clarence J., schr., 410 g.t., b. '89, West Bay City, in com.
- Fillmore, Millard, schr., b. Buffalo, '56, passed out.
- Fillmore, Millard, schr., 291 g.t., b. '64, Buffalo, sunk '91.
- Finch, scow, sunk L. Erie, '83.
- Finch, William, schr., 49 g.t., b. '78, South Haven, in com.
- Finney, Geo. C., schr., 300 g.t., b. '66, Oswego, sunk L. Erie, '91.
- Fintry, prop., 590 t., b. Detroit, '55, exploded off Port Stanley, '56, 10 lives lost.
- Fire Fly, Can. fry., 24 t., b. '55, Toronto.
- Fire Fly, sty., 7 g.t., b. '87, Buffalo, passed out, '93.
- Fire Proofer, tug, 9 g.t., b. '88, Pullman, Ill., in com.
- Fire Queen, stmr., passed out.
- Fire Queen, tug, 20 g.t., b. '91, Chicago, in com.
- Fish, E. P., tug, 11 g.t., b. '69, Buffalo, in com.
- Fish Hawk, schr., wrecked Sheboygan, '65.
- Fish, Wm., brig, wrecked Devil river, '69.
- Fisher, Eliza, Can. schr., 160 n.t., b. '67, Portsmouth, in com.
- Fisher, Eliza, schr., 130 t., b. Portsmouth, '67.
- Fisher, George E., tug, 20 g.t., b. '83, Detroit, in com.
- Fisher, Hattie, schr., 80 g.t., b. '72, Ventura, Mich., in com.
- Fisher, Max., tug, 8 g.t., b. '81, Pentwater, passed out, '93.
- Fisher, S. M., tug, 628 g.t., b. '96, Toledo, in com.
- Fisherman, tug, 18 g.t., b. '80, Detroit, in com.
- Fishing Queen, stpd., 15 g.t., b. '89, Fairport, foundered L. Erie, '97.
- Fisk, James, Jr., prop., 1,095 g.t., b. '70, Buffalo, in com.
- Fiske, Edward, tug, 43 g.t., b. '83, Buffalo, in com.
- Fiske, Wm., schr., 401 t., total loss, '69.
- Fitch, F., schr., 13 g.t., b. '91, Onekama, Mich., lost L. Mich., '98.
- Fitzgerald, E., schr., 297 t., b. '70, wrecked Long Point, '83, 7 lives lost.
- Fitzgerald, R. P., prop., 1,681 g.t., b. '87, Detroit, in com.
- Fitzhugh, Henry, schr., 315 g.t., b. '66, Oswego, in com.
- Fitzpatrick, John C., schr., 1,271 g.t., b. '92, West Bay City, chartered for ocean, '98.
- Flamboro, Can. schr., stranded, L. Ont., '42.
- Flat Foot, scow, stranded, L. Erie, '44.
- Fleet Wing, schr., 41 g.t., b. '77, Charlevoix, in com.
- Fleet Wing, schr., capsized, L. Ont., '63, 3 lives lost.
- Fleet wing, Can. schr., 218 n.t., b. '63, Wilson, in com.
- Fleet Wing, schr., 426 t., b. Manitowoc, '67.
- Fleet Wing, schr., 250 t., lost, '88.
- Fletcher, tug, wrecked, '70.
- Fletcher, Emory, schr., b. Fairport, '31.
- Fletcher, F. W., prop., 495 g.t., b. '91, Marine City, in com.
- Flight, schr., 249 t., abandoned Bois Blanc island, '65.
- Flight, Can. sty., 37 g.t., b. '75, Portsmouth, in com.
- Flint, Ben., schr., wrecked L. Mich., '70.
- Flint, Oscar T., prop., 823 g.t., b. '89, St. Clair, in com.
- Flint, Sam., schr., 499 g.t., b. '68, Toledo, in com.
- F. and P. M. (1), stmr., 769 g.t., b. '82, Milwaukee, in com.
- F. and P. M. (2), stmr., 771 g.t., b. '82, Saginaw, in com.
- F. and P. M. (3), stmr., 924 g.t., b. '87, Saginaw, in com.
- F. and P. M. (4), stmr., 941 g.t., b. '88, Saginaw, in com.
- F. and P. M. (5), stmr., 1,722 g.t., b. '90, Saginaw, in com.
- Floe, stcb., 87 g.t., b. '82, Chicago, in com.
- Flood, Parmelia J., bark, 384 t., sailed Green Bay for West Indies, '58.
- Flora, brig, damaged '50, near Buffalo.
- Flora, stmr., 561 g.t., b. '75, Milwaukee, in com.



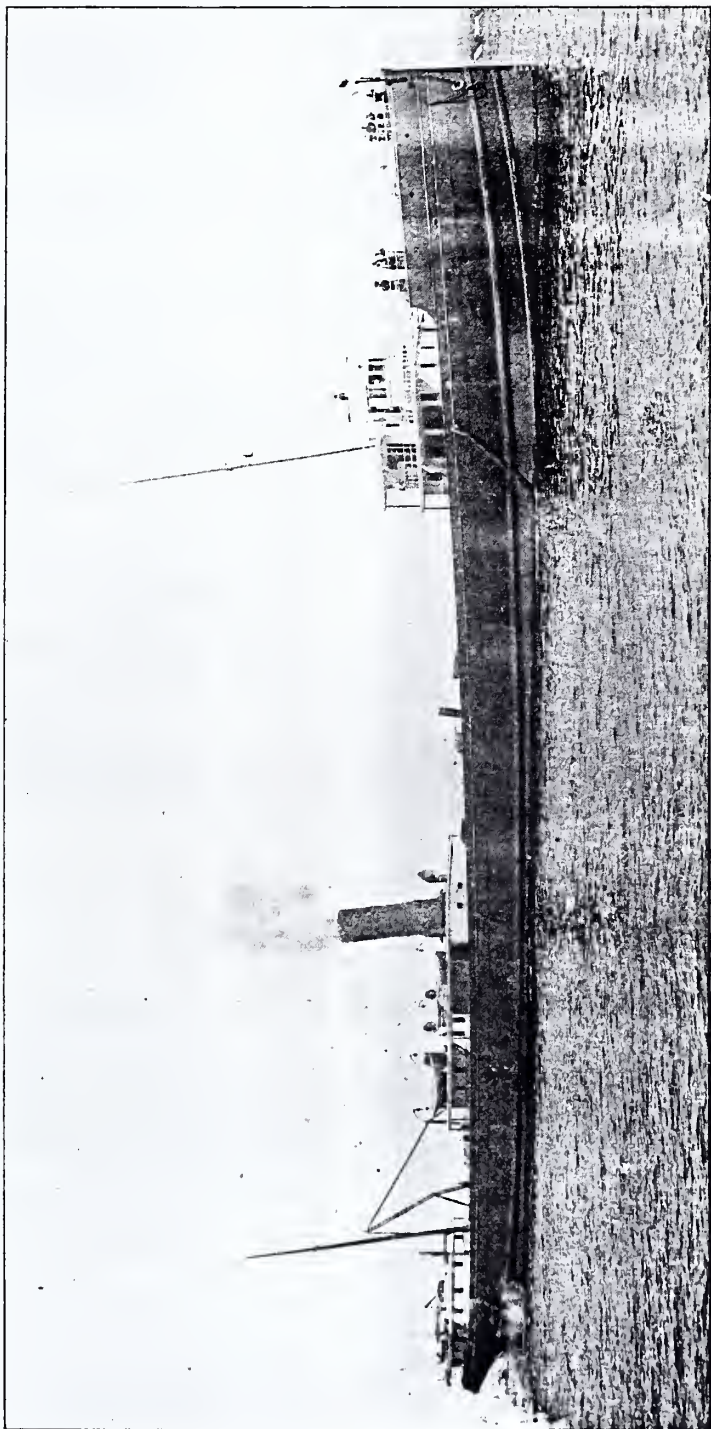
- Flora, Can. schr., 76 g.t., b. '80, Bath, in com.  
 Flora, tug, 24 g.t., b. '85, Blue Island, Ill., in com.  
 Flora, schr., 5 g.t., b. '86, Naubinway, Mich., in com.  
 Flora, tug, 18 g.t., b. '89, Saugatuck, in com.  
 Flora, Emma, Can. schr., 154 g.t., b. '72, Picton, in com.  
 Flora, V., schr., 8 g.t., b. '86, Menekaunee, in com.  
 Florence, tug, 19 g.t., later the Milton.  
 Florence, schr., b. '48, Black River, O., wrecked at Kelley's island, '54.  
 Florence, Can. scow, 32 g.t., b. '62, Belle river, in com.  
 Florence, sty., 26 g.t., b. '69, Baltimore, Md., in com.  
 Florence, schr., b. Detroit, '69.  
 Florence, schr., 11 g.t., b. '78, Pentwater, in com.  
 Florence, schr., total wreck, '76.  
 Florence, Can. tug, 95 n.t., b. '81, Rockland, in com.  
 Florence, Can. prop., 27 g.t., b. '84, Huntsville, in com.  
 Florence, Can. tug, 147 n.t., b. '95, Lewis, in com.  
 Florence, sty., 15 g.t., b. '91, Charlotte, in com.  
 Florence, sty., 10 g.t., b. '95, Geneva, O., in com.  
 Florence B., prop., 25 g.t., b. '92, Detroit, in com.  
 Floretta, schr., 320 t., b. Detroit, '68, sunk L. Mich., '85.  
 Florida, schr., b. '34, Black River, O.  
 Florida, schr., b. Three Mile Bay, L. Ont., '35.  
 Florida, schr., wrecked near Buffalo, '36.  
 Florida, schr., 299 t., b. Oswego, '68, lost L. Sup., '86.  
 Florida, Can. schr., sunk L. Erie, '82.  
 Florida, stmr., lost, '94, L. Mich.  
 Florida, prop., 2,103 g.t., b. '89, Buffalo, sunk by col., '97.  
 Floss, sty., 15 g.t., later the *Æolius*.  
 Floss, sty., 14 g.t., b. '88, in com.  
 Flotilla, schr., 12 g.t., b. '91, Washington island, Wis., in com.  
 Flower, Roswell P., prop., 1,593 g.t., b. '87, Milwaukee, in com.  
 Flower, R. P., Can. prop., 16 n.t., b. '81, Watertown, in com.  
 Fly, schr., in L. Mich. trade, '35.  
 Fly, Nettie, schr., 18 g.t., b. '68, Erin, Mich., in com.  
 Flying Cloud, slp., 10 g.t., b. '92, Thousand Island Park, N. Y., in com.  
 Flying Cloud, schr., b. Clayton, L. Ont., before '52, wrecked L. Mich., '57, 7 lives lost.  
 Flying Cloud, schr., abandoned L. Ont., '70.  
 Flying Cloud, schr., lost, '92, L. Mich.  
 Flying Dutchman, schr., 74 t., b. Madison, O., '45, wrecked Long Point, '51.  
 Flying Mist, schr., 316 t., b. Cleveland, '61, sunk L. Mich., '83.  
 Flying Scud, 63 t., b. '69.  
 Foam, schr., 42 g.t., b. '82, Menekaunee, in com.  
 Foam, bge., 129 g.t., b. '85, in com.  
 Foley, D. J., prop., 348 t., burned L. Ont., '90.  
 Folger, F. A., Can. tug, 64 g.t., b. '81, Kingston, in com.  
 Folsom, A., prop., 940 g.t., b. '85, West Bay City, in com.  
 Folsom, Oscar, tug, 11 g.t., b. '73, Buffalo, in com.  
 Fond du Lac, schr., 11 g.t., b. '78, Green Bay, passed out, '93.  
 Fontana, schr., 1,163 g.t., b. '88, St. Clair, in com.  
 Fontanelle, bark, 370 t., burned Chicago, '71.  
 Foote, Bob, Can. tug, 43 n.t., b. '88, Collingwood, in com.  
 Foote, C. H., stcb., 143 g.t. later the *Zenobia*.  
 Foote, Com., schr., 180 t., b. Oswego, '62, sunk by col. L. Hur., '67.  
 Foote, Gen., schr., sunk Cleveland, '64.  
 Foote, George, schr., 316 t., b. Detroit, '59.  
 Foote, Henry C., 66 g.t., b. '63, Essex, N. Y., in com.  
 Forbes, Christina A., tug, 51 g.t., b. '78, West Bay City, passed out, '96.  
 Forbes, Kittie M., prop., 968 g.t., b. '83, West Bay City, in com.  
 Ford, Augustus, schr., 183 g.t., b. '53, Dexter, N. Y., passed out, '95.  
 Ford, Frank, 156 t., b. Detroit, '71.  
 Ford, J. C., prop., 710 g.t., b. '89, Grand Haven, in com.  
 Ford, George W., schr., on L. Sup., before '55.  
 Ford River, schr., 289 g.t., b. '79, Milwaukee, in com.  
 Forest, schr., lost L. Hur., '57.  
 Forest, schr., 113 g.t., b. '57, Newport, passed out, '91.  
 Forest, schr., sunk by col., L. Erie, '59, 1 life lost.  
 Forest Chief, scow, wrecked Cleveland, '62.  
 Forest City, stmr., b. Trenton, '51, later the Bay City.  
 Forest City, prop., sunk L. Mich., by col. '55.  
 Forest City, prop., burned Port Stanley, '58.  
 Forest City, schr., b. '60.  
 Forest City, prop., 1,236 g.t., b. '70, Cleveland, in com.  
 Forest City, tug, sunk off Cleveland, '88.  
 Forest, Ingeborg M., schr., 152 g.t., b. '71, Fort Howard, Wis., wrecked L. Mich., '97.  
 Forest King, bark, 400 t., wrecked Georgian Bay, '69.  
 Forest Maid, scow, b. '53, Black River, O.  
 Forest Queen, stmr., 462 t., b. Newport, '55, dismantled '66, made a barge.  
 Forest Queen, schr., sunk Genesee harbor, '56.  
 Forest Queen, prop., 467 t., sunk Clay Banks, '69.  
 Forest Queen, schr., 167 t., wrecked Indian Point, '86.  
 Forest Queen, barge, lost L. Erie, '72, with all hands.  
 Forester, Can. schr., 250 g.t., b. '45, Rice Lake.  
 Forester, schr., ashore Straits, '46.  
 Forester, stmr., 504 t., b. Newport, '53, dismantled '65, made barge, lost '69.  
 Forester, schr., 55 g.t., b. '68, Erin, Mich., lost at Sani-lac, '98.  
 Forester, L. B., schr., 21 g.t., b. '86, Port Huron, in com.  
 Forfar, schr., total wreck, Muskegon, '68.  
 Fort, Daniel G., schr., 339 g.t., b. '67, Tonawanda, wrecked, '94, L. Ont.  
 Fortier, L. P., scow, 167 t., wrecked L. Mich., '65, 5 lives lost.  
 Fortune, schr., wrecked L. Hur., '64.  
 Fortune, prop., 199 g.t., b. '75, Detroit, in com.  
 Fortune's Friend, 10 t., b. '69.  
 Fortune's Trial, 10 t., b. '69.  
 Forward, Jessie, Can. prop., 6 g.t., b. Mill Haven, Ont., '97, in com.  
 Forwarder, schr., wrecked Kincardine, '64.  
 Forwarder, scow, sunk Black River, '72.  
 Foss, Robert M., stmr., 260 t., b. Cleveland, '54.  
 Foster, bge., lost off Port Burwell, '72.  
 Foster, Anna F., Can. schr., 39 g.t., b. '78, Cheboygan in com.  
 Foster, Annie M., schr., sunk by col., '89.  
 Foster, A. M., prop., 200 t., foundered L. Hur., '88.  
 Foster, Charles, schr., 997 g.t., b. '77, Milan, O., char-tered for ocean, '98.  
 Foster, E. M., prop., 180 g.t., later the Edward H. Jenks.  
 Foster, I. N., prop., 356 g.t., b. '72, Port Huron, in com.  
 Foster, Mary, Can. schr., b. Belleville, Ont., '69.  
 Foster, Parks, s. prop., 1,729 g. t., b. '89, Cleveland, in com.  
 Foster, Rebecca, schr., wrecked Long Point, '63.  
 Foster, Samuel H., schr., 672 g.t., b. '73, Cleveland, chartered ocean, '98.  
 Foster, Wm., schr., capsized L. Mich., '58.  
 Fostoria, schr., 237 g.t., b. '65, Black River, O., in com.  
 Fountain City, prop., 630 g.t., b. '57, Cleveland, burned Sturgeon Bay, '96.  
 Four Brothers, schr., 95 g.t., b. '70, Holland, Mich., passed out, '93.  
 Four Brothers, schr., 198 g.t., b. '73, Manistee, in com.

- Fournica, Sofie, schr., 22 g.t., b. '97, West Bay City, in com.
- Fox, schr., on lakes before '30.
- Fox, stmr., 162 t., b. Buffalo, '50, burned Newport, Mich., '63.
- Fox, brig, 405 t., lost L. Erie, '67.
- Fox, slp., 10 g.t., b. '96, Northport, Mich., in com.
- Fox, Hattie A., tug, 23 g.t., later the Mentor.
- Fox, Lillie, schr., b. '66, Black River, O.
- Fox, Mary, schr., aground Salmon island, '69.
- Foxtooth, sty., 23 g.t., b. '93, Saugatuck, passed out, '95.
- France, bark, schr., ashore near Goderich, '54.
- Francis, stmr., burned near Sorel, '77.
- Francis, Can. tug, 47 g.t., b. '64, Bedford Mills, in com.
- Francis, C. H., stcb., 116 g.t., b. '95, Baldwinsville, N. Y., in com.
- Francis, Joseph, schr., 16 g.t., b. '66, Tottenville, N. Y., passed out, '97.
- Francis, W. C., Can. tug, 98 n.t., b. '73, Buffalo, in com.
- Francomb, John A., schr., 658 g.t., b. '89, West Bay City, in com.
- Frank, Edward, tug, 39 g.t., b. '90, Grand Haven, Mich., passed out, '95.
- Frank, W., s. tug, 93 g.t., b. '91, Buffalo, N. Y., in com.
- Frankie, Can. prop., 14 n.t., b. '88, Wallaceburg, in com.
- Franklin, schr., sunk Grand river, '20, crew lost.
- Franklin, schr., b. Clayton, L. Ont., before '52.
- Franklin, schr., 73 t., b. about '18.
- Franklin, Ben., stmr., 231 t., b. Algonac, '42, wrecked Thunder bay, '53.
- Franklin, Ben., schr., total loss Canby reef, '77.
- Franklin, Gen. W. B., sty., 10 g.t., b. '80, Pamrapo, N. J., in com.
- Fraser, Alex., Can. prop., 320 g.t., b. '91, Pembroke, in com.
- Fred, tug, burned.
- Fred, Can. schr., 157 g.t., b. '81, Hull, in com.
- Fred B., tug, 16 g.t., b. '89, West Bay City, in com.
- Fred L., sty., 20 g.t., b. '77, Chicago, in com.
- Frederick, schr., 61 t., foundered L. Mich., '65.
- Fredericks, A., scow, b. '54, Black River, O.
- Freedom, schr., capsized L. Hur., '44, 3 lives lost.
- Freeme, Martha, schr., wrecked Port Burwell, '48.
- Free Democrat, schr., b. '43, capsized '68, L. Mich., 4 lives lost.
- Free Mason, scow, b. '57, Black River, O., sank Detroit r., '67, 3 lives lost.
- Free Mason, Can. prop., 105 g.t., b. '83, Kingston, in com.
- Free State, prop., 949 t., b. '56, wrecked Gray's shoal, '71.
- Free Trader, Can. schr., afloat L. Erie, '30.
- Free Trader, schr., b. Cape Vincent before '53.
- Free Trader, Can. prop., b. about '49, burned Port Stanley, '57.
- Free Trader, scow, lost, '69.
- Freeman, schr., 190 t., b. Charleston, O., '45, lost L. Erie, '61, with 5 of crew.
- Freeman, D., Can. schr., 182 n.t., b. '75, Port Burwell, in com.
- Fremont, prop., b. '66.
- Fremont, schr., 288 t., sunk by col. '69, L. Erie.
- Fremont, stmr., burned Sandusky, '58.
- French, H. C., stcb., 142 g.t., b. '88, Lockport, in com.
- French, May, tug, 18 g.t., b. '83, Buffalo, in com.
- Fretter, John, schr., b. '53, Black River, O.
- Friant, Thos., tug, 81 g.t., b. '84, Grand Haven, in com.
- Friends Good Will, slp., 60 t., b. Black Rock, '10, captured by British at Mackinaw, '12; re-named Little Belt, re-captured battle Lake Erie.
- Friendship, schr., b. '16, afterward named Tiger.
- Friendship, slp., 45 t., b. Sheboygan, '45.
- Friendship, Can. schr., 24 g.t., b. '76, Bronte, in com.
- Frisia, schry., 41 g.t., b. '82, Chicago, in com.
- Fritz, John, s. schr., 6,500 g.t., b. West Bay City, '98, in com.
- Frolic, scow, sunk Cleveland, '61.
- Frolic, stcb., 60 g.t., b. '84, Lockport, passed out, '92.
- Frolic, slp., 10 g.t., b. '84, Chicago, in com.
- Frontenac, first vessel on the Great Lakes, a little bark built by La Salle at Fort Frontenac, now Kingston, Canada, in 1678.
- Frontenac, first Can. stmr. on lakes, 500 t., launched Sept. 7, '16, Ernetstown, first trip, June 5, '17, burned.
- Frontenac, Can. stmr., 200 g.t., b. '41, Kingston, broken up.
- Frontenac, schr., 152 t., wrecked Point Burwell, '65.
- Frontenac, Can. bge., sunk near Kingston, '83, by col.
- Frontenac, s. prop., 2,003 g.t., b. '89, Cleveland, in com.
- Frontier City, brig, b. on hull brig Canton, '60, total loss, Kincardine, Ont., '71.
- Frost, E. E., tug 10 g.t., b. '85, Oswego, in com.
- Frost, Geo. S., stmr., burned Erie, '79.
- Frost, Walter L., prop., 1,322 g.t., b. '83, Detroit, in com.
- Fryer, Robert L., schr., 527 g.t., b. '80, Detroit, in com.
- Fryer, Robert L., prop., 1,810 g.t., b. '88, West Bay City, in com.
- Fuller, Cora, tug, 24 g.t., b. '82, Muskegon, later the O. M. Field.
- Fuller, Eva, schr., lost '93, L. Mich.
- Fullerton, Geo., sty., 25 g.t., b. '89, Buffalo, passed out, '97.
- Fullerton, J. C., sty., 31 g. t., b. '88, Buffalo, in com.
- Fulton, schr., 256 g.t., b. '54, Cleveland, in com.
- Fulton, tug, 13 g.t., b. '79, in com.
- Fulton, E. A., Can. schr., 363 n.t., b. '63, Toledo, in com., formerly A. Boody, American stmr.
- Fulton, Robert, stmr., 368 t., b. Cleveland, '35, wrecked Sturgeon Pt., '44.
- Fulton, Robert, s. prop., 4,220 g.t., b. '96, Wyandotte, in com.
- Fulton, T. H., tug, 13 g.t., b. '79, Buffalo, in com.
- Fur Trader, 40 t., b. L. Sup., '12, permanently disabled in making the rapids later.
- Fur Trader, schr., 52 t., b. Detroit, '43.
- Gable, Geo., schr., 403 t., b. Oswego.
- Gadabout, stmr., 9 g.t., b. '92, in com.
- Gage, Gen., English brig., 154 t., b. Detroit, 1772, carried 14 guns during Rev. war.
- Gage, Moses, schr., 224 g.t., b. '69, Geneva, wrecked '94, L. Mich.
- Gagnoon, M. A., tug, 18 g.t., b. '74, Two Rivers, Wis., in com.
- Gain, scow, stranded Point Pelee, '68.
- Galatea, schr., 611 g.t., b. '82, West Bay City, in com.
- Gale, brig, in com. '47.
- Gale, Andrew F., tug, 13 g.t., b. '85, Laketon, Mich., in com.
- Gale, Stephen F., brig, 266 t., b. Chicago, '46, sunk L. Erie, '76.
- Galena, schr., 13 g.t., b. '89, in com.
- Galena, stmr., total loss, L. Hur., '72.
- Gales, John, Can. schr., 42 g.t., b. '79, Mitchell's Bay, in com.
- Gallatin, U. S. rev. cut., b. Buffalo, '71.



- Gallatin, schr., foundered Point Pelee, '82.  
 Gallinipper, schr., 142 t., b. Milwaukee, '46, from skeleton of Nancy Dousman, lost L. Mich., '51.  
 Galvin, Eugene A., sty., 14 g.t., b. '87, Rochester, in com.  
 Galvin, M. J., stcb., 131 g.t., formerly Ceres, b. '80, Ithaca, in com.  
 Game, schr., stranded Collingwood, '71.  
 Gamecock, schr., aground, '60, in com. '68.  
 Gamma, prop., 145 g.t., b. '96, Elizabethport, N. J., in com.  
 Ganges, schr., 333 g.t., b. '74, Detroit, in com.  
 Ganges, tug, 22 g.t., b. '81, Saugatuck, in com.  
 Gannett, E. B., schr., sunk L. Ont., '70.  
 Garden City, stmr., 450 t., b. Buffalo, '53, wrecked near Detour, '54.  
 Garden City, prop., sunk L. Mich., '58.  
 Garden City, prop., 351 g.t., b. '73, Ogdensburg, in com.  
 Garden City, Can. stmr., 425 g.t., b. '92, Toronto, in com.  
 Garden Island, Can. schr., b. Kingston, '77.  
 Gardner, tug, 108 t., b. '72, burned L. Ont., '83.  
 Gardner, F. B., schr., 402 g.t., b. '55, Little Sturgeon, Wis., in com.  
 Gardner, G. W., tug, 53 g.t., b. '62, Cleveland, in com.  
 Gardner, Nellie, schr., wrecked Thunder Bay, '83.  
 Gardner, S., schr., 319 g.t., later the Wm. Brake.  
 Garibaldi, Can. schr., 167 n.t., b. '61, Port Huron, in com.  
 Garibaldi, Can. schr., 209 g.t., b. '63, Port Rowan, in com.  
 Garibaldi, schr., lost Georgian Bay, '65, 4 drowned.  
 Garibaldi, schr., 88 g.t., b. '69, New Liverpool, Mich., in com.  
 Garland, prop., 248 g.t., b. '80, Detroit, in com.  
 Garnet, Can. stmr., 172 n.t., b. '85, Valleyfield, in com.  
 Garnet, Can. tug, 26 n.t., b. '89, South Bay, in com.  
 Garrett, Jas., schr., 266 t., b. Sheboygan, '68, ashore Beaver island, '71.  
 Gartenlaube, tug, 23 g.t., b. '94, Lockport, in com.  
 Gartshore, Can. prop.  
 Gaskin, J., Can. bge., 626 n.t., b. '81, Kingston, in com.  
 Gates, H. N., schr., 169 t., b. Ohio City, '47.  
 Gates, Horatio, b. Clayton, L. Ont., '32.  
 Gates, N. B., tug, 28 g.t., b. '77, Lorain, in com.  
 Gatineau, Can. stmr., now the Can. stmr. Paul Smith.  
 Gatineau, Can. prop., now the Can. prop. Harry Bate.  
 Gatineau, Can. tug, 133 g.t., b. '73, Brewer's Mills, in com.  
 Gault, John C., prop., 1,212 g.t., b. '81, Buffalo, in com.  
 Gauthier, Gordon, Can. tug, 44 n.t., b. '83, Wallaceburg, in com.  
 Gauthier, Harold, Can. prop., 9 g.t., b. '88, Walkerville, in com.  
 Gawn, Thomas, schr., 549 g.t., b. '72, Black River, O., in com.  
 Gay, A. F., schr., sunk Ottawa Point, '81.  
 Gazelle, schr., b. '32, wrecked at Centerville, L. Mich., '68.  
 Gazelle, schr., b. '58, wrecked Eagle Harbor, '60.  
 Gazelle, prop., 182 g.t., b. '73, Detroit, in com.  
 Gazelle, sty., 36 g.t., b. '78, Buffalo, in com.  
 Gazelle, schr., 8 g.t., b. '87, Port Ontario, in com.  
 Gazette, schr., sunk off Cleveland, '52.  
 Gear, schr., lost, '71.  
 Gebhardt, A., schr., 354 g.t., b. '69, Marine City, in com.  
 Gee, S. W., tug, 62 g.t., b. '88, Buffalo, in com.  
 Geel, Frank, tug, 12 t., b. '72, burned Muskegon, '87.  
 Gehring, Can. schr., 112 t., b. '69, burned Trenton, '91.  
 Geiken, Frank P., tug, 35 g.t., b. '91, Grand Haven, in com.  
 Gem, schr., in com., '68.  
 Gem, stmr., 50 t., b. Detroit, '56.  
 Gem, tug, 10 g.t., b. '82, Conneaut, in com.  
 Gem of the Lakes, slp., 21 g.t., b. '65, Plattsburg, N. Y., in com.  
 Genesee, schr., b. L. Ont., 1790.  
 Genesee, prop., burned at Rochester, '52.  
 Genesee, stmr., 128 t., b. Rochester, '54.  
 Genesee Chief, prop., 400 t., b. Rochester, '46, burned at Detroit, '68, made barge.  
 Genesee Chief, schr., 275 g.t., b. '63, Cleveland, passed out, '97.  
 Genesee Packet, schr., 82 t., b. L. Ont., purchased by U. S. Gov., '12, renamed Conquest.  
 Geneva, slp., ashore, Ashtabula, '45.  
 Geneva, scow, lost, North Manitowoc, '59.  
 Geneva, prop., b. '74, ore carrier, lost first year.  
 Geneva, prop., 91 g.t., b. '75, Portsmouth, Ont., passed out, '91.  
 Geneva Packet, on L. Ont., before '12.  
 Genevieve, tug, 38 g.t., b. '90, Buffalo, in com.  
 Genoa, schr., total wreck Erie, '65.  
 Genoa, schr., 730 g.t., b. '73, Cleveland, in com.  
 George, English vessel on L. Ont., 1760.  
 George, schr., 100 t., b. Montreal, '70.  
 George, schr., 790 g.t., b. '73, Manitowoc, in com.  
 George, Can. schr., 122 g.t., b. '81, Ottawa, in com.  
 George, schr., 18 g.t., b. '91, Sturgeon Bay, in com.  
 George IV, Can. schr., 80 g.t., b. '28, York.  
 Georger, F. A., schr., 825 g.t., b. '74, Tonawanda, chartered ocean, '98.  
 Georgia, scy., 22 g.t., b. '76, in com.  
 Georgia, stmr., 950 g.t., b. '80, Manitowoc, in com.  
 Georgia, Can. prop., 28 g.t., b. '85, Saugatuck, in com.  
 Georgia, schr., 82 g.t., b. '87, Depere, in com.  
 Georgia, Can. tug, 44 g.t., b. '93, Port Arthur, in com.  
 Georgia, prop., b. Manitowoc, '98.  
 Georgian, Can. prop., 377 g.t., b. '64, Georgian Bay, in com.  
 Georgian, Can. prop., 500 t., sunk near Owen Sound, '88.  
 Georgiana, schr., in com., '44.  
 Georgiana, Can. tug, 80 n.t., b. '74, Buffalo, in com.  
 Georgie, schr., 9 g.t., b. '89, Grand Haven, passed out, '92.  
 Gerald, C., sty., 36 g.t., b. '93, Wyandotte, in com.  
 Geraldine, schr., 303 t., sunk by col., L. Erie, '69.  
 Geraldine, Can. prop., 65 g.t., b. '93, Parry Sound, in com.  
 Gerlach, Eliza, schr., 271 g.t., b. '67, Cleveland, in com.  
 Gerlach, Kate, tug, burned L. Erie, '69.  
 German, schr., 77 g.t., b. '68, Black River, O., in com.  
 German, s. prop., 2,348 g.t., b. '90, Cleveland, in com.  
 German, William, Can. prop., 32 n.t., b. '88, Port Robinson, in com.  
 Germania, prop., 263 g.t., b. '75, Marine City, in com.  
 Germania, prop., 88 g.t., b. '80, Newburg, N. Y., in com.  
 Germanic, prop., 1,131 g.t., b. '88, West Bay City, in com.  
 Gernada, Can. prop., 54 n.t., b. '83, Prescott, in com.  
 Gerst, Phillip, sty., 23 g.t., b. '94, Buffalo, in com.  
 Gertie, Can. tug, 17 n.t., b. '78, Buffalo, in com.  
 Gertie, slp., 8 g.t., b. '91, Detroit, in com.  
 Gertrude, schr., 369 t., b. Cleveland, '55, wrecked near Manitowoc, '60.  
 Gertrude, schr., sunk, '68.  
 Gertrude, Can., prop., 69 n.t., b. '86, Toronto, in com.  
 Gertrude, tug, 26 g.t., b. '85, Saugatuck, later the G. J. Dorr.  
 Gertrude, sty., 12 g.t., b. '91, Manitowoc, in com.  
 Gettysburg, prop., 1,087 g.t., b. '87, Trenton, Mich., in com.





STEEL STEAMER S. S. CURRY.



- Geyser, tug, 29 g.t., b. '89, West Bay City, in com.  
 Geyser, tug, 143 g.t., b. '86, Chicago, in com.  
 G. G. O., schr., 8 g.t., b. '94, Saugatuck, in com.  
 Ghent, schr., condemned and sunk, '26.  
 Giant, tug, 10 g.t., b. '83, Buffalo, in com.  
 Gibbs, Laura, prop., 15 g.t., b. '75, Muskegon, passed out, '95.  
 Gibbs, R. J., schr., 176 g.t., b. '55, Vermilion, founded, Bar Point, '93.  
 Gibraltar, bge., 386 t., b. '53, damaged L. Ont., '86.  
 Gibson, schr., 217 t., b. Buffalo, '70.  
 Giddings, J. R., brig, 257 t., b. Ashtabula, '44, lost L. Mich., '57.  
 Gifford, Frank W., schr., 398 g.t., b. '68, Cleveland, founded L. Mich., '97.  
 Gilbert, Can. tug, 87 n.t., b. '84, Cardinal, in com.  
 Gilbert, E. K., schr., sunk Point Pelee, '68.  
 Gilbert, Mollison, schr., in com. '71.  
 Gilbert, William, prop., 71 g.t., b. '79, Oswego, in com.  
 Gilbert, W. H., s. prop., 2,820 g.t., b. '92, West Bay City, in com.  
 Gilcher, W. H., prop., 2,414 g.t., b. Cleveland, '91, lost with all hands L. Mich., '92.  
 Gilchrist, J. C., prop., 1,827 g.t., b. '87, Trenton, Mich., in com.  
 Gilderhouse, tug, in com., '65.  
 Gildersleeve, Can. stmr., 250 g.t., b. '39, Kingston, boiler exploded, '40.  
 Gildersleeve, Can. schr., 91 g.t., b. '73, Chatham, in com.  
 Gill, Alice M., prop., 264 g.t., b. '87, Grand Haven, in com.  
 Gillen, Edward, tug, 58 g.t., b. '91, Buffalo, in com.  
 Gillett, F. W., tug, 28 g.t., formerly the Odd Fellow, b. '69, Huron, in com.  
 Gillett, Kate, schr., 264 t., b. after '50, Conneaut, later the Horace H. Badger.  
 Gillmore, Ellen, schr., lost L. Erie, '56.  
 Gillmore, Gen. Q. A., b. '67, Black River, O.  
 Gilmore, J. E., schr., 290 g.t., b. '67, Three Mile Bay, wrecked L. Mich., '92.  
 Gilmore, L. A., schr., 75 t., b. Black River, '67, sunk Cleveland, '75.  
 Gilphie, Can. sty., 45 n.t., b. Lockport, in com., formerly Joe.  
 Gipse, schr., 181 t., b. Ohio City, '47.  
 Gipse, schr., 132 t., b. Sheboygan, '81, later the Lydia E. Raesser.  
 Gipse Queen, Can. bge., 88 g.t., b. '70, Dog Lake, in com.  
 Gipsy, schr., 131 t., b. '82, wrecked L. Mich., '83.  
 Gipsy, Can. stmr., now the Ella Ross.  
 Girard, Stephen, schr., 60 t., b. Chaumont, N. Y., '32.  
 Gitana, sty., 5 t., b. Buffalo, '89, foundered St. Lawrence r., '95, 3 lives lost.  
 Glacial, Can. prop., 155 n.t., b. '85, Sorel, in com.  
 Glade, Louisa A., schr., 43 g.t., b. '85, Manistee, in com.  
 Gladiator, scow, b. '54, Black River, O., passed out, '95.  
 Gladiator, tug, 220 g.t., b. '71, Port Huron, in com.  
 Gladstone, schr., 175 t., b. '69, ashore Port Huron, '83.  
 Gladstone, prop., 2,112 g.t., b. '88, Cleveland, in com.  
 Glad Tidings, schr., 183 g.t., b. '66, Detroit, in com.  
 Glad Tidings, schr., lost L. Ont., '70.  
 Glad Tidings, schr., 81 g.t., b. '83, Manitowoc, sunk by col. '94, 4 lives lost.  
 Glad Tidings, schr., 34 g.t., b. '86, Clayton, in com.  
 Glad Tidings, sty., 81 g.t., b. '89, Chicago, passed out, '96.  
 Glad Tidings, schr., 9 g.t., b. '97, Racine, in com.  
 Gladwyn, small armed English schr., b. Detroit about 1762, wrecked L. Erie few years later, all hands lost.  
 Gladys, slp., 12 g.t., b. '93, Sault Ste. Marie, in com.  
 Gladys, Can. sty., 26 g.t., b. '94, Smith's Falls, in com.  
 Glance, sty., 28 g.t., b. '86, Buffalo, in com.  
 Gleaner, schr., foundered L. Erie, '40.  
 Gleaner, schr., 101 g.t., b. '83, Champlain, N. Y., in com.  
 Glenbulah, prop., 602 t., b. Sheboygan, '67.  
 Glenbula, schr., destroyed in Chicago fire, '71.  
 Glenfinlas, Can. prop., 447 t., b. '51, burned '83.  
 Glengarry, Can. prop., 466 n.t., b. '72, St. Catharines, in com.  
 Glengarry, Can. bge., 277 n.t., b. '73, Lancaster, in com.  
 Glengarry, Can. tug, now the Can. tug Sandy.  
 Glen Haven, stmr., 63 g.t., b. '79, Irondequoit Bay, passed out, '94.  
 Gleniffer, Can. bge., 376 n.t., b. '73, Port Robinson, in com.  
 Glenn, prop., 277 g.t., b. '89, South Haven, in com.  
 Glenora, Can. bge., 739 t., b. Kingston, '82, now Hector.  
 Glenrosa, Can. sty., 63 g.t., b. '91, Meganetawan, in com.  
 Glide, Can. tug, 78 n.t., b. '66, Brockville, in com.  
 Glide, Can. sty., 80 g.t., b. '84, Ottawa, in com.  
 Glidden, John N., prop., 1,322 g.t., b. '79, Cleveland, in com.  
 Gliding Star, schr., 17 g.t., b. '84, Mt. Clemens, Mich., in com.  
 Globe, schr., b. '32, Black River.  
 Globe, schr., b. Cape Vincent, before '53.  
 Globe, prop., 319 t., b. Maumee City, '46.  
 Globe, stmr., 1,200 t., b. Detroit, '48, converted into a prop., exploded boiler Chicago, '60, 16 lives lost, burned Saginaw bay, '63, raised and made a barge.  
 Globe, bark, 320 t., wrecked at Port Bruce, '54.  
 Globe, scow, lost L. Mich., '58, 7 lives lost.  
 Globe, bge., wrecked Leamington, '73.  
 Globe, Can. bark, wrecked Port Bruce, '54.  
 Globe, s. prop., 2,995 g.t., b. '94, Cleveland, in com.  
 Gloucester, Can. gunboat, b. '12, Kingston, broken up.  
 Glover, W. A., schr., 162 t., lost near Toronto, '67.  
 Glynnacor, schr., ashore Chicago, '53.  
 G. No. 1, Can. bge., 24 g.t., b. '67, Cardinal, in com.  
 G. No. 2, Can. bge., 40 g.t., b. '67, Cardinal, in com.  
 Gnewuch, Charlie J., tug, 32 g.t., b. '80, Grand Haven, in com.  
 Goble, Geo., scow, lost, '71.  
 Goderich, Can. stmr., formerly Minnetunk.  
 Godfrey, Jeremiah, schr., 653 g.t., b. '81, Port Huron, in com.  
 Godfrey, L. B., tug, 32 g.t., b. '81, Fort Howard, Wis., in com.  
 Godolphin, schr., wrecked Fairport, '35, crew lost.  
 Goffe, Margaret R., schr., 278 g.t., b. '62, St. Clair, passed out, '95.  
 Gogebic, prop., 1,680 g.t., b. '87, West Bay City, in com.  
 Gold Hunter, slp., b. L. Ont., before '12.  
 Gold Hunter, schr., wrecked at Sleeping Bear, '52.  
 Gold Hunter, schr., 386 t., wrecked Point Pelee, '67.  
 Gold Hunter, scow, lost, '71.  
 Gold Hunter, schr., wrecked Thunder Bay reef, '79.  
 Gold Hunter, Can. schr., 219 g.t., b. '62, Marysburgh, in com.  
 Golden, tug, 44 g.t., b. '92, Milwaukee, in com.  
 Golden Age, schr., 1,846 g.t., b. '83, Abbotts Bridge, O., in com.  
 Golden Age, stcb., 119 g.t., b. '97, Middleport, N. Y., in com.  
 Golden City, Can. tug, 89 n.t., b. '73, Buffalo, in com.  
 Golden Eagle, tug, 59 g.t., later the Valerie.  
 Golden Eye, Can. prop., 61 g.t., b. '76, Peterboro, in com.  
 Golden Fleece, barkentine, converted into schr., '69.



- Golden Fleece, schr., 451 g.t., b. '62, Cleveland, passed out, '92.
- Golden Harbor, Can. scow, 42 g.t., b. '83, Little River, in com.
- Golden Harvest, schr., 255 g.t., b. '56, Buffalo, in com.
- Golden Gate, stmr., 771 t., b. Buffalo '52, wrecked, Erie '56, 1 life lost.
- Golden Rule, schr., 363 g.t., b. '67, Buffalo, in com.
- Golden West, schr., b. '61, wrecked Georgian Bay, '84.
- Goldsmith, Jos., tug, 60 g.t., b. '82, Milwaukee, in com.
- Goler, Elizabeth, slp., b. Cape Vincent, before '53.
- Goler, Lewis, schr., b. Oswego, passed out.
- Goliath, prop., b. Palmer, St. Clair river, '46, wrecked off Black river, '46.
- Goliath, prop., lost by boiler explosion, L. Hur., '48, 18 lives lost.
- Go-Look, schr., 18 g.t., b. '89, Point Lookout, Mich., passed out, '96.
- Gondola, Can. bge., 91 g.t., b. '81, Wallaceburg, in com.
- Good Hit, prop., 69 t., b. '80, burned Grosse Isle, '87.
- Good Intent, 30 t., b. 1,799 on Mill creek, L. Erie, lost with all on board, Point Albino, 1806.
- Good Intent, schr., wrecked off Dunkirk '25.
- Good News, schr., 19 g.t., b. '94, Sand Beach, in com.
- Goodenough, schr., 16 g.t., b. '93, Sault Ste. Marie, in com.
- Goodenow, Wm., tug, b. '66, sunk by col., '69.
- Goodill, Edna, tug, 22 g.t., b. '91, Cleveland, in com.
- Goodill, Rob E., tug, 17 g.t., b. '90, Erie, in com.
- Goodman, R. E., tug, 22 g.t., b. '82, Buffalo, burned L. Sup., '98.
- Goodman, W. O., schr., 324 g.t., b. '82, Manitowoc, in com.
- Goodwill, tug, 65 g.t., b. '95, Buffalo, in com.
- Gordon, Addie, Can. scow, 165 g.t., b. '69, Welland, in com.
- Gordon, Cynthia, schr., 44 g.t., b. '64, St. Joseph, in com.
- Gordon, John, tug, 51 g.t., b. '84, Saugatuck, in com.
- Gordon, James, Can. schr., 147 g.t., b. '81, Hull, in com.
- Gordon, Joseph, tug, 40 g.t., b. '81, Bay City, in com.
- Gordon, Mary S., Can. schr., 82 n.t., b. '82, Kincardine, in com.
- Gordon, R. I., prop., 186 t., b. '81, Marine City, in com.
- Gore, Can. schr., 200 g.t., b. '38, Niagara, broken up.
- Gore, prop., 160 t., b. Brockville, '51.
- Gore, stmr., 149 t., b. L. Ont., '50, dismantled.
- Gore, Bella, Can. schr., b. York, '09.
- Gore, L. L., stmr., afterwards called Goderich.
- Gorman, Pete, tug, 60 g.t., b. '92, Saginaw, in com.
- Goshawk, schr., 549 g.t., b. '66, Cleveland, in com.
- Gosssoon, sty., 14 g.t., formerly Bertie, b. '88, Detroit, in com.
- Gould, E. F., schr., 261 g.t., b. '75, Carrolton, Mich., lost L. Hur., '98.
- Gould, Geo. J., s. prop., 2,237 g.t., b. '93, Buffalo, in com.
- Gould, Jay, prop., 996 g.t., b. '69, Buffalo, in com.
- Goulder, H. D., tug, b. '97, in com.
- Governor, Can. schr., 176 g.t., b. '75, Kingston, in com.
- Gowan, Albert Y., prop., 392 g.t., b. '88, Lorain, in com.
- Gowanda, scb., 130 g.t., formerly Venus, b. '80, Ithaca, N. Y., in com.
- Grace, stmr., ashore Whitefish Point, '82, 2 lives lost.
- Grace, sty., 42 g.t., formerly May Lily, b. '81, Detroit, Mich., in com.
- Grace, tug, 14 g.t., b. '92, Buffalo, in com.
- Grace, Amelia, schr., wrecked, '51.
- Grace, Amelia, Can. schr., 199 g.t., b. '74, Port Burwell, in com.
- Gracie Belle, schr., 36 g.t., b. '85, Sand Beach, in com.
- Graham, bark, capsized L. Hur., '72.
- Graham Brothers, schr., 82 g.t., b. '74, Fort Howard, in com.
- Graham, Col., i. tug, 32 g.t., later the Robert Emmett.
- Graham, Jennie, schr., sunk Welland canal, '75.
- Graham, Lucy, schr., 61 g.t., b. '67, Sturgeon Bay, in com.
- Graham, May, stmr., 91 g.t., b. '79, St. Joseph, in com.
- Grampey, schr., 30 t., iron used taken from schr. Salem Packet.
- Grampian, schr., 844 g.t., b. '94, West Bay City, in com.
- Granipus, schr., b. Marine City about '25.
- Grampus, Can. schr., wrecked L. Ont., '46.
- Granada, schr., lost Mackinaw, '73.
- Granada, schr., 1,729 g.t., b. '95, West Bay City, in com.
- Grand Army, scow, capsized near Kelley's Island, '77.
- Grand Island, stmr., 23 g.t., b. '88, Grand Rapids, in com.
- Grand Isle, prop., 125 g.t., b. '69, Essex, in com.
- Grand Traverse, prop., 869 g.t., formerly Morley, b. '79, Marine City, sunk by col., '96.
- Grand Turk, schr., 327 t., lost, '69, North Manitou.
- Grandon, tug, 47 g.t., b. '93, Toledo, in com.
- Grandy, Mary, 325 t., b. Cleveland about '63, sold U. S. Gov., taken to New York and re-named Bolize, returned to lakes after war.
- Grandy, William, schr., 464 g.t., b. '67, Cleveland, in com.
- Grange, schr., 101 t., b. '26, passed out.
- Granger, scow, wrecked Sandusky, '63.
- Granger, schr., 366 g.t., b. '74, Two Rivers, in com.
- Granger, Ralph, schr., 90 t., ashore L. Erie, '38.
- Granite State, prop., 351 t., damaged, '69.
- Grant, schr., 173 t., sunk L. Ont., '85.
- Grant, Can. schr., 146 g.t., b. '87, Hull, in com.
- Grant, Gen. U. S., schr., 156 t., b. Green Bay, '65.
- Grant, Gen. U. S., tug, burned Fox Island, '75.
- Grant, Gen. U. S., schr., 62 g.t., b. '65, Wellsboro, N.Y., in com.
- Grant, Kittie, schr., wrecked L. Mich., '84, 4 lives lost.
- Grant, Kitty, schr., capsized L. Mich., '55, 4 lives lost.
- Grant, Kate, Can. scow, 47 g.t., b. '80, Conneaut, in com.
- Grant, John, schr., 93 t., b. '36, capsized near Erie, '45.
- Grant, Levi, schr., 204 g.t., b. '72, Sheboygan, in com.
- Grant, W. G., schr., damaged by col., '60.
- Grant, W. W., Can. schr., 163 g.t., b. '67, Port Burwell, in com.
- Grantham, Can. schr., 394 n.t., b. '73, Port Robinson, in com.
- Granville, scow, in com., '55.
- Grape Shot, schr., 369 t., wrecked Plumb island, '67.
- Gratiot, Gen., stmr., 63 t. b. Black River, O., '31, broken up.
- Gratwick, W. H., prop., 475 g.t., now the John C. Pringle.
- Gratwick, Wm. H., tug, 20 g.t., b. '82, Buffalo, in com.
- Gratwick, William H., prop., 1,687 g.t., b. '87, West Bay City, in com.
- Gratwick, Wm. H., s. prop., 2,818 g.t., b. '93, West Bay City, in com.
- Graves, Deloss, canal tug, passed out.
- Graves, Wm. F., bark, b. Cleveland, '67.
- Gray Eagle, schr., stranded L. Mich., '59.
- Gray Eagle, schr., 380 t., wrecked Whitefish bay, '69.
- Gray, John, Can. schr., 156 g.t., b. '81, Hull, in com.
- Gray, Lily, schr., 60 t., b. South Haven, '68.
- Gray, Lillie, scow, wrecked L. Mich., '74.
- Grayhound, tug, 10 g.t., b. '96, Saugatuck, in com.

- Grayling, slp., 14 g.t., b. '75, Sand Beach, in com.  
 Grayling, tug, 17 g.t., b. '76, Buffalo, in com.  
 Grayling, tug, 9 g.t., b. '84, Erie, in com.  
 Grayling, tug, 15 g.t., b. '89, West Bay City, in com.  
 Grayling, slpy., 7 g.t., b. '91, Cleveland, in com.  
 Great Britain, Can. stmr., 700 g.t., b. '30, Prescott.  
 Great West, bark, 765 t., b. Buffalo, '54.  
 Great West, bark, 360 t., b. Oswego, '54, lost, Sleeping Bear, '57.  
 Great West, bark, sunk Chicago, '76, raised, waterlogged, '77.  
 Great Western, stmr., 780 t., b. Huron, O., '38, burned at Detroit and rebuilt.  
 Great Western, Can. stmr., 1,090 n.t., b. '66, Windsor, in com.  
 Great Western, Can. schr., now the Can. schr. F. H. Burton.  
 Greble, brig, stranded Milwaukee, '43.  
 Grecian, Can. prop., b. on Clyde, transported L. Ont. in sections, '63, wrecked.  
 Grecian, Can. stmr., liner, wrecked '70 in St. Lawrence r.  
 Grecian, s. prop., 2,348 g.t., b. '91, Cleveland, in com.  
 Greeley, Horace, schr., wrecked St. Joseph, '64.  
 Green, Andrew H., prop., 80 g.t., b. '96, Benton Harbor, in com.  
 Green Bay, schr., sunk Michigan City, '52.  
 Green Bay, schr., 244 g.t., b. '67, Fish Creek, Wis., passed out, '94.  
 Green, Gilbert R., stcb., 137 g.t., b. '87, Lockport, in com.  
 Green, G. R., tug, 18 g.t., b. '74, Milwaukee, in com.  
 Green, John L., schr., 89 g.t., b. '75, Port Clinton, in com.  
 Green, Martin, tug, 18 t., b. '69.  
 Green, Mary A., tug, 16 g.t., b. '63, Buffalo, passed out, '96.  
 Green Mountain Boy, brig, 260 t., b. Cleveland, '46.  
 Green, O. B., tug, 56 g.t., b. '81, Chicago, in com.  
 Green, O. B., tug, 41 g.t., later the Commodore.  
 Green, Sarah A., schr., 119 t., b. Cuyahoga, '47, wrecked L. Erie, '57.  
 Green, T. M., stmr., lost '94, L. Hur.  
 Greene, C. H., prop., 700 g.t., b. '81, Saginaw, in com.  
 Greene, M. T., prop., 523 g.t., b. '87, Gibraltar, in com.  
 Greenhalgh, R., Jr., tug, 39 g.t., b. '72, Cleveland, passed out, '92.  
 Greenwood, Grace, bark, 337 t., b. Oswego, '53.  
 Greenwood, W. T., Can. schr., 144 g.t., b. '67, Port Dalhousie, wrecked, '95.  
 Gregg, M. M., stmr., in com., '80.  
 Gregory, John, tug, 75 g.t., b. '78, Green Bay, in com.  
 Gregory, Mary A., schr., 87 g.t., b. '75, Chicago, in com.  
 Grenada, schr., ashore at Straits, '75.  
 Grenville, Can. sch., 154 g.t., b. '89, Grenville, in com.  
 Gresham, W. Q., U. S. rev. cut., b. Cleveland '98, ordered to Atlantic, sunk en route.  
 Grey Oak, schr., 290 g.t., b. '85, Bayfield, Wis., passed out, '95.  
 Greyhound, brig, 160 t., b. Conneaut, '53, lost near Sheboygan, '59, 1 life lost.  
 Greyhound, stmr., 621 g. t., formerly Northwest, b. '67, Manitowoc, in com.  
 Greyhound, Can. schr., 28 n.t., b. '87, Goderich, in com.  
 Greyhound, Can. prop., 265 n. t., b. '88, Hamilton, in com.  
 Griffin, or Le Griffon, first vessel constructed above Niagara Falls, a small schooner of 45 to 60 tons built by La Salle in 1679, wrecked same year.  
 Griffin, s. prop., 1,856 g.t., b. '91, Cleveland, in com.  
 Griffin, John B., 28 g.t., b. '74, Buffalo, passed out, '92.  
 Griffith, G. P., stmr., 587 t., b. Buffalo, '45, burned L. Erie, 250 lives lost.  
 Grimsby, Can. bge., 394 n.t., b. '74, St. Catharines, in com.  
 Griswold, C. C., schr., 354 t., b. Vermillion, '54, lost L. Sup., '72.  
 Groh, Mary, prop., 139 g.t., b. '73, Black River, O., in com.  
 Groh, Michael, prop., 289 g.t., b. '67, Cleveland, wrecked L. Sup., '95.  
 Gross, John L., schr., in com. '68, ashore Green Bay, '72.  
 Groton, schr., 352 g. t., b. '68, Port Huron, foundered L. Erie, '97.  
 Grover, Alice, Can. brig, 206 g.t., b. '56, Napanee, in com.  
 Grover, Alice, schr., wrecked off Cleveland, '66, 1 life lost.  
 Grover, Anna P., schr., 246 g.t., b. '68, Vermilion, O., in com.  
 Grover, Criss., schr., 133 g.t., b. '78, Lorain, in com.  
 Grover, Criss., tug, 56 g.t., b. '93, Buffalo, in com.  
 Grover, Estella, schr., 25 g.t., b. '97, Pentwater, in com.  
 Grover, Mary, Can. schr., 184 g.t., b. '55, Colborne, in com.  
 Grover, Maurice B., prop., 1,995 g. t., b. '87, Cleveland, in com.  
 Growler, schr., 81 t., originally Experiment, U. S. v. on L. Ont. '12, 2 guns, captured by British '13, recaptured by U. S. '13, recaptured by British at Oswego, '14.  
 Grummond, Grace, stmr., burned L. Mich., '84.  
 Grummond, Grace, i. schr., 205 g.t., formerly Search, b. '69, New York, in com.  
 Gryenway, John, stmr., damaged by col., '68.  
 Gryphon, sty., 26 g.t., formerly No. 12, b. '90, Poughkeepsie, in com.  
 Guerriere, schr., 75 g.t., b. '27, Swan Creek, capsized Detroit r., '32, 5 lives lost.  
 Guest, schr., 11 g.t., b. '91, Toussaint, O., in com.  
 Guide, schr., lost with all hands, '71.  
 Guide, schr., 55 g.t., b. '62, St. Joseph, Mich., in com.  
 Guide, prop., 47 g.t., b. '84, Massena, burned Oswego, '95.  
 Guiding Star, schr., 384 g.t., b. '67, Marine City, abandoned, '92.  
 Guiding Star, schr., 324 t., built as prop., boiler exploded, '69, made bge., '71, wrecked L. Mich., '83.  
 Guiding Star, schr., 31 g.t., b. '83, Erin, Mich., in com.  
 Guido, schr., 133 g.t., b. '56, Manitowoc, in com.  
 Gulielma, schr., wrecked Buffalo, '63.  
 Gulnair, schr., ashore North Point, '90.  
 Gunderson Bros., tug, 46 g.t., b. '92, Sheboygan, in com.  
 Gust, Henry, tug, 37 g.t., b. '93, Milwaukee, in com.  
 Guthrie, L. May, schr., 137 g.t., b. '74, Conneaut, wrecked '94, L. Mich.  
 Guy, Lulu, schr., 15 g.t., b. '95, Benona, Mich., in com.  
 G. W. H., schr., 24 g.t., b. '96, in com.  
 Gypsy, Can. prop., 20 g.t., b. '87, Toronto, in com.  
 Gypsy, sty., 17 g.t., b. '88, in com.
- Hacket, M. E., Can. tug, 97 n.t., b. '94, Levis, in com.  
 Hackett, Alfred A., Can. schr., 11 g.t., b. '85, Wiarton, in com.  
 Hackett, Bob, tug, 65 t., b. '69.  
 Hackett, R. J., prop., 1,129 g.t., b. '69, Cleveland, in com.



- Hackley, C. H., schr., 207 g.t., b. '68, Milwaukee, in com.
- Hackley, Eric L., sty., 54 g.t., b. '82, Muskegon, in com.
- Hackley, J. H., tug, 45 g.t., b. '74, Buffalo, in com.
- Hadley, George G., prop., 2,073 g.t., b. '88, Bay City, in com.
- Hagar, H., schr., in com., '53, passed out.
- Hagerman, J. J., tug, 42 g.t., b. '72, Buffalo, in com.
- Haggart, John, Can. prop., 73 n.t., b. '87, Perth, in com.
- Hague, Col., schr., in com., '77.
- Hahn, J. W., tug, 31 g.t., b. '82, Buffalo, in com.
- Haight, Edgar, tug, 13 g.t., b. '72, Buffalo, in com.
- Haight, Kittie, Can. tug, 60 g.t., b. Buffalo, '74, laid up, '97.
- Haines, C. L., stcb., 125 g.t., b. '90, Lockport, in com.
- Hairburch, schr., in com., '58.
- Hale, E. B., prop., 1,186 g.t., b. '74, Cleveland, founded Saginaw bay, '97.
- Hale, John P., b. '52, Black River, O.
- Hale, Mary B., schr., 248 g.t., b. '74, Detroit, passed out, '92.
- Hale, O. J., schr., 326 g.t., b. '74, Trenton, in com.
- Hale, Samuel, schr., 293 t., formerly the Reddick, b. Southport, in com., '56.
- Halifax, brig, wrecked L. Ont., '54.
- Hall, schr., b. Buffalo, '55.
- Hall, Can. prop., 188 n.t., b. '89, Montreal, in com.
- Hall, D. P., tug, 54 g.t., b. '81, Buffalo, in com.
- Hall, E. E., sty., 13 g.t., b. '92, Skaneateles, in com.
- Hall, Fred B., tug, 14 g.t., b. '83, Erie, in com.
- Hall, James H., schr., 100 g.t., b. '85, Manitowoc, in com.
- Hall, Jessie, Can. tug, 111 n.t., b. '67, Buffalo, in com.
- Hall, John E., prop., 343 g.t., b. '89, Manitowoc, in com.
- Hall, Lena, schr., 22 g.t., b. '91, in com.
- Hall, Mary P., tug, b. Ogdensburg, '98, in com.
- Hall, Maurice A., Can. schr., 71 g.t., b. '72, Port Dover, in com.
- Hall, Minnie, Can. prop., 61 g.t., b. '69, St. Catharines, in com.
- Hall, Stephen C., prop., 447 g.t., b. '80, Grand Haven, in com.
- Hall, W. B., Can. prop., 608 g.t., b. '85, St. Catharines, now the St. Andrews.
- Halladay, Chas., tug, 48 g.t., b. '81, Saugatuck, in com.
- Hallaran, R., schr., 698 g.t., b. '80, Cleveland, chartered ocean, '98.
- Halliwell, bark, wrecked Long Point cut, '55.
- Hallstead, Wm. F., sty., 34 g.t., b. '92, Buffalo, in com.
- Halstead, schr., 496 g.t., b. '73, Little Sturgeon, in com.
- Hamer, T. L., schr., 109 t., b. '47, Black River, O., passed out.
- Hamilton, Brit. schr., 81 t., originally Experiment, then Growler, captured by U. S. on L. Ont., '13.
- Hamilton, schr., 112 t., originally Diana, U. S. war v. on L. Ont., '12, 10 guns.
- Hamilton, Can. stmr., 300 g.t., b. 35, Hamilton.
- Hamilton, Can., stmr., 496 n.t., b. '47, Niagara, in com. formerly the Magnet.
- Hamilton, Can. schr., lost L. Ont., '58.
- Hamilton, U. S. rev. cut., b. Buffalo, '71.
- Hamilton, schr., wrecked South Harbor, '73.
- Hamilton, Chas., stcb., 134 g.t., b. '87, Buffalo, passed out '91.
- Hamilton, Gen., schr., lost Ont., '13.
- Hamilton, Lily, schr., 370 t., sunk L. Mich., '85.
- Hamlet, schr., b. '52, Black River, O., sunk Chicago, '56.
- Hammel, Julia C., tug, 28 g.t., b. '93, Manitowoc, in com.
- Hammond, L. S., schr., 329 g.t., b. '69, Detroit, in com.
- Hammond, Nellie, schr., 47 g.t., b. '77, Depere, wrecked '97.
- Hampton, brig, 300 t., b. Three Mile Bay, L. Ont., '45.
- Hanaford, John W., schr., 326 g.t., b. '75, St. Clair, in com.
- Hancock, tug, 48 g.t., b. '67, Newburg, N. Y., passed out, '97.
- Hancock, General, schr., 14 g.t., b. '80, Ogontz Bay, Mich., in com.
- Hancock, John, brig, 260 t., wrecked Rondeau, '52.
- Hand, Geo., schr., 309 t., b. Bangor, '70.
- Hand, George R., tug, 34 g.t., b. '81, Buffalo, in com.
- Handy, Augustus, b. Cleveland, '55, sunk L. Hur., '61.
- Handy Boy, prop., 285 t., sunk, Sundusky, '83.
- Handy Boy, schr., 26 g.t., b. '74, Harrison, Mich., in com.
- Handy Boy, tug, 25 g.t., b. '82, Bay City, in com.
- Handy, T. P., schr., b. '49, Black River, O., burned '51, lost L. Mich., '60.
- Hanlan, Can. schr., 104 t., b. Picton, '80, burned off Bushy island, '95.
- Hanlan, John, Can. prop., 53 n.t., b. '84, Port Dalhousie, in com.
- Hanley, Doctor, prop., 34 g.t., b. '76, Lockport, abandoned, '94.
- Hanna, Leonard, schr., 660 t., b. '72, wrecked L. Mich., '87.
- Hanna, W. R., capsized L. Mich., '70.
- Hannah, schr., 48 t., b. Black Rock, '16.
- Hannah, schr., 23 t., b. Oswego, wrecked Malden, '44.
- Hannah, schr., b. Cape Vincent before '53.
- Hannah, schr., wrecked L. Ont., '44.
- Hannah, Perry, schr., damaged by col., '61.
- Hannum, J. M., Can. schr., 150 g.t., b. '76, Hull, in com.
- Hanover, brig, 427 t., b. Milwaukee, sold, Hamburg, Germany, '60.
- Hanover, schr., 267 t., lost Green Bay, '67.
- Hans, schr., ashore, Beaver island, '56.
- Hanscomb, Belle, schr., 294 g.t., b. '74, Toledo, in com.
- Hansen, Amelia, schr., 5 g.t., b. '87, Pentwater, in com.
- Hansen, Anna O., schr., 185 g.t., b. '69, Depere, in com.
- Hanson, scow, sunk Monroe, '68.
- Hanson, Geo., schr., lost L. Mich., '57, four lives lost.
- Happy Boy, schr., 30 g.t., b. '90, Grosse Point, in com.
- Happy Home, schy., 40 g.t., b. '96, Charlevoix, in com.
- Harbrecht, Louise, sty., 26 g.t., b. '86, Buffalo, in com.
- Hard Times, schr., 45 t., b. '45, passed out.
- Harlem, i. prop., 2,299 g.t., b. '88, Wyandotte, ashore Isle Royale, '98.
- Harlequin, schr., b. Erie, 1800, lost during her first season with all hands.
- Harlequin, slp., passed out.
- Harley, tug, 11 g.t., b. '78, Buffalo, passed out, '97.
- Harmon, E., schr., 370 t., b. Ashtabula, '67, wrecked L. Erie, '87.
- Harmon, John H., brig, lost St. Lawrence gulf, about '60.
- Harmon, R. H., schr., 343 t., sailed Europe, '58, renamed Waverthee, wrecked L. Hur., '67.
- Harold, schr., 718 g.t., b. '91, Bay City, in com.
- Harper, Jennie G., Can. prop., 20 g.t., b. '74, Chatham, in com.
- Harper, John, prop., 1,951 g.t., b. '90, West Bay City, in com.
- Harriet, schr., 11 t., b. before '25.
- Harriet, sty., 9 g.t., b. '95, Chicago, in com.
- Harriet Ann., Can. schr., lost L. Ont., '59.
- Harriet M., sty., 11 g.t., b. '97, Chicago, in com.
- Harrington, J. C., sty., 9 g.t., b. '88, Medina, N. Y., in com.
- Harris, Geo. A., Can. tug, 113 n.t., b. '82, Hull, in com.
- Harris, Joe, tug, 66 g.t., b. '73, Cleveland, in com.
- Harrison, schr., 100 t., b. Marine City about '35.
- Harrison, tug, wrecked, '70.



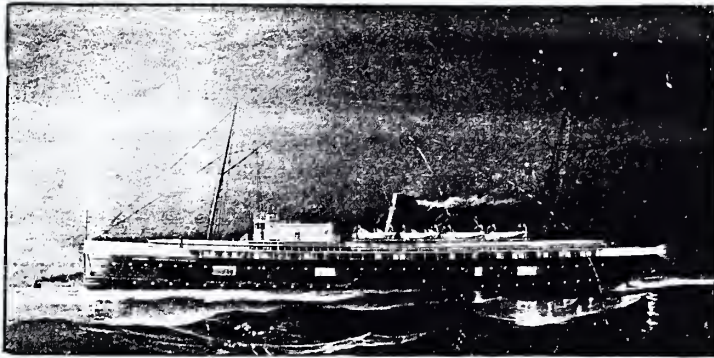
- Harrison, stmr., 63 t., b. Erie, '39, wrecked '54.  
Harrison, Ben., tug, 18 g.t., b. '89, Tonawanda, in com.  
Harrison, Benjamin, schr., 538 g.t., b. '89, Mt. Clemens, in com.  
Harrison, Benjamin, schr., 38 g.t., b. '89, Ogdensburg, passed out, '95.  
Harrison, C., schr., 137 g.t., b. '54, Milwaukee, wrecked Sturgeon bay, '98.  
Harrison, Gen., stmr., 363 t., b. Maumee, '39, wrecked near Chicago, 1854.  
Harrison, J. C., schr., 518 t., b. Cleveland, '70, wrecked, '85.  
Harrison, J. C., tug, in com., '70.  
Harrison, John, Can. prop., 55 n.t., b. '84, Owen Sound, in com.  
Harrison, Ludington, prop., 407 g.t., b. '90, Manitowoc, passed out, '91.  
Harrison, William, stmr., 378 g.t., b. '64, Keysport, N. J., passed out, '96.  
Harrow, W. G., tug, 84 g.t., b. '93, Port Huron, in com.  
Harry, Can. schr., 166 g.t., b. '79, Ottawa, in com.  
Hart, Asa E., schr., 445 t., total loss, '69.  
Hart, C., schr., 26 g.t., b. '77, Sheboygan, passed out, '95.  
Hart, Eugene C., prop., 522 g.t., b. '90, Manitowoc, in com.  
Hart, Fannie C., prop., 476 g.t., b. '88, Manitowoc.  
Hart, R. E., bark, in com., '61.  
Hart, Thomas, schr., wrecked L. Ont., '42.  
Hartford, schr., 223 g.t., b. '73, Gibraltar, foundered L. Ont., '94, with all hands.  
Hartnell, George E., s. schr., 3,265 g.t., b. '96, Chicago, in com.  
Hartzell, J. H., schr., wrecked L. Mich., '80.  
Harvest, schr., 309 t., sailed Europe, '58.  
Harvest, Can. bge., 258 n.t., b. '70, Montreal, in com.  
Harvest Belle, schr., damaged, '72.  
Harvest Home, schr., 380 t., b., '62, passed out.  
Harvest Queen, schr., ashore, '71, foundered L. Hur., '80.  
Harvey, brig, damaged by col., '61.  
Harvey, J. M., schr., 22 g.t., b. '96, Chicago, in com.  
Harwich, schr., 75 t., wrecked L. Hur., '58, 7 lives lost.  
Haselton, George H., prop., 22 g.t., b. '83, Oswego, in com.  
Haskell, Wm. A., prop., 1,530 g.t., b. '84, Detroit, in com.  
Hastings, schr., 229 t., b. Belleville, '61.  
Hastings, Can. stmr., 286 g.t., b. '68, Montreal, changed to Eurydice.  
Hathaway, tug, in com., '64.  
Hathaway, Col., schr., 93 t., b. New Baltimore, '70.  
Hathor, sty., b. Racine, '98.  
Hattie, Can. scow, 112 g.t., b. '63, Port Robinson, in com.  
Hattie, schr., 400 g.t., b. '73, Marine City, in com.  
Hattie, prop., 66 g.t., b. '82, Fair Haven, in com.  
Hattie, slp., 20 g.t., b. '90, Erin, Mich., in com.  
Hattie B., schr., 8 g.t., b. '91, Detroit, in com.  
Hattie B., slp., 7 g.t., b. '89, Chicago, in com.  
Hattie H., Can. schr., 134 g.t., b. '88, Ottawa, in com.  
Hattie L., tug, 17 g.t., b. '89, Cleveland, in com.  
Hattie, Mary, schr., b. '66.  
Hatton, J. A., bge., 182 t., lost '69.  
Hausler, M. G., tug, 73 g.t., b. '93, Saugatuck, in com.  
Havana, schr., b. Three Mile Bay, L. Ont., '41.  
Havana, schr., 306 t., b. '71, sunk L. Mich., '87, three lives lost.  
Havana, prop., 1,041 g.t., b. '74, Cleveland, in com.  
Havens, P. E., schr., 65 g.t., b. '65, Essex, N. Y., in com.  
Havre, schr., wrecked L. Hur., '45.  
Hawgood, H. A., schr., 1,276 g.t., b. '86, West Bay City, chartered ocean, '98.  
Hawkins, Wesley, tug, 87 g.t., later the James Beard.  
Hawkins, W. H., schr., 135 g.t., b. '68, Union Pier, Mich., in com.  
Hawley, M. C., prop., 257 g.t., later the City of Green Bay.  
Hawley, R. K., tug, 27 g.t., b. '73, Cleveland, in com.  
Hawthorne, schr., 29 g.t., b. '93, Benton Harbor, in com.  
Hay, H. C., schr., damaged, '72.  
Hay, James, tug, 35 g.t., b. '79, Buffalo, in com.  
Hayden, P., wrecked L. Mich., '54.  
Hayes, scow, sunk Sandusky, '62.  
Hayes, Dan, schr., 145 g.t., b. '68, Fairport, sunk L. Mich., '98.  
Hayes, F. J., tug, 27 g.t., b. '95, Port Huron, in com.  
Hayes, Jennie, tug, 15 g.t., b. '89, Buffalo, in com.  
Hayes, Kate, schr., lost L. Hur., '56.  
Hayes, R. B., schr., 668 g.t., b. '77, Gibraltar, foundered off Chicago, '93.  
Hayes, R. B., stmr., 164 g.t., b. '76, Sandusky, O., in com.  
Hayward, A. D., prop., 304 g.t., b. '87, Manitowoc, in com.  
Hazard, Can. tug, 50 n.t., b. '92, Port Dover, in com.  
Hazard, G. S., schr., 1,128 g.t., now the Iron State.  
Haze, U. S. lighthouse stmr., arrived from New York, '67.  
Hazel, prop., 46 g.t., b. '92, Charlotte, in com.  
Hazel, prop., 11 g.t., b. '93, Washburn, N. Y., in com.  
Hazel, prop., 66 g.t., b. '96, Harbor Springs, in com.  
Hazleton, A. L., schr., 230 t., b. Chaumont, '51.  
Hazelton, A. L., schr., capsized L. Erie, '60.  
H. B., Can. bge., 638 n.t., b. '90, Montreal, in com.  
H. B. and B., No. 1, bge., 184 g.t., b. '91, Buffalo, in com.  
H. B. and B., No. 2, bge., 183 g.t., b. '91, Buffalo, in com.  
H. B. and B., No. 3, bge., 193 g.t., b. '91, Buffalo, in com.  
H. B. and B., No. 4, bge., 313 g.t., b. '91, Buffalo, in com.  
Head, Sir Edmund, Can. schr., sunk Welland canal, '61.  
Head, Sir E. W., Can. bark, wrecked L. Erie, '70, four lives lost.  
Heald, Joseph, tug, 43 t., b. '73, Ferrysburg, Mich., burned, '94.  
Heartless, schr., wrecked Chicago, '17, first wreck at Chicago.  
Heath, E. H., stcb., 99 g.t., b. '76, Lockport, in com.  
Heath, John S., tug, 7 g.t., b. '94, Buffalo, passed out, '95.  
Heath, G. P., prop., 117 t., b. '72, burned L. Mich., '87.  
Heather Bell, 149 t., b. Detroit, '63.  
Heather Bell, Can. schr., 168 t., b. Picton, '68.  
Heather Belle, Can. schr., 121 g.t., b. '84, Picton, in com.  
Heather Belle, Can. tug, 32 n.t., b. '83, Meaford, in com.  
Hebard, Charles, prop., 763 g.t., b. '88, Detroit, in com.  
Hebard, Daniel L., tug, 159 g.t., formerly P. L. Johnson, b. '75, Cleveland, in com.  
Hebard, R. H., tug, 14 g.t., b. '82, Buffalo, in com.  
Hebard, Robert H., tug, 65 g.t., b. '89, Buffalo, in com.  
Hecla, prop., 1,110 g.t., b. '82, Buffalo, in com.  
Heckler, Clara, tug, passed out.  
Hector, tug, wrecked Sugar Loaf Point, '73.

- Hector, Can. tug, 66 n. t., b. '73, Port Colborne, in com.  
Hector, Can. bge., 638 n. t., b. '82, Kingston, in com., formerly Glenora.  
Hector, schr., 38 g. t., b. '84, Bay City, in com. \*  
Hee, schr., 60 t., b. Pentwater, '70.  
Heine, H. M., schr., damaged L. Erie, '43.  
Helen, Can. schr., 61 n. t., b. '68, Sandy Creek, in com.  
Helen, schr., 38 g. t., b. '71, Erin, Mich., passed out, '97.  
Helen, schr., sunk near Muskegon, '86, 7 lives lost.  
Helen, sty., 26 g. t., b. '95, Detroit, in com.  
Helena, schr., 80 t., b. Southport, wrecked near Kalamazoo, '51.  
Helena, schr., wrecked L. Mich., '88.  
Helena, schr., 863 g. t., b. '74, Cleveland, later the Am-boy.  
Helena, Can. sail yt., 13 g. t., b. '77, Gravenhurst, in com.  
Helena, prop., 2,083 g. t., b. '88, Sheboygan, in com.  
Helene, tug, 24 g. t., b. '83, Fairport, in com.  
Helfenstein, brig, sunk Chicago, '52, stranded Clay Banks, '71.  
Heligoland, schr., 84 t., wrecked Muskegon, '65.  
Helm, D. T., tug, 64 g. t., b. '93, Benton Harbor, in com.  
Helm, Margaret, schr., on L. Erie, '41.  
Helvetia, schr., 793 g. t., b. '73, Tonawanda, chartered ocean, '98.  
Hemisphere, bark, in com., '69.  
Hemlock, schr., burned St. Lawrence, '70.  
Henderson, E., schr., 110 t., b. Milwaukee, '45, lost Waukegan, '61.  
Heney, John, Can. prop., 19 g. t., b. '76, Ottawa, in com.  
Heney, John, Can. schr., 155 g. t., b. '89, Ottawa, in com.  
Hengerer, Wm., stcb., 125 g. t., b. '94, Phoenix, N. Y., in com.  
Henness, Annie R., sty., 47 g. t., b. '84, Buffalo, in com.  
Henrietta, stmr., 256 g. t., b. '79, Oshkosh, in com.  
Henry, schr., b. Cape Vincent, before '53.  
Henry, tug, 30 g. t., formerly Geo. B. Dickson.  
Henry, tug, 30 g. t., b. '76, Buffalo, in com.  
Henry, Anna, schr., 265 t., b. Erie, '67, lost Little Point Sable, '70.  
Henry, Charles, slp., 9 g. t., b. '76, Clayton, passed out, '95.  
Henry, J., Can. tug, now the Can. tug, Thos. Osborne.  
Henry, Patrick, brig, 313 t., b. Cape Vincent, before '53.  
Henry, Patrick, tug, 18 t., b. '81, foundered off Vermilion, '87.  
Henry, Sir, schr., in com., '33.  
Henry, W., Can. schr., 185 g. t., b. '85, Sorel, in com.  
Henzie, John, brig, b. '33, Black River, O.  
Her Majesty, Can. prop., 300 g. t., b. '63, St. Catharines, sunk Port Colborne, '65.  
Her Majesty, Can. stmr., 613 t., wrecked L. Ont., '69.  
Herald, schr., 219 t., b. '47, capsized near Chicago, '53.  
Herald, prop., 99 t., b. Detroit, '70.  
Herald, schr., b. '57, Black River, O.  
Herald, prop., 39 g. t., b. '76, Cleveland, in com.  
Herbert, Can. schr., 162 g. t., b. '80, Ottawa, in com.  
Herbert, Can. tug, 21 g. t., b. Sault Ste. Marie, '96.  
Herbert M., Can. prop., 26 g. t., b. '87, Russess, in com.  
Hercules, schr., lost with all on board, L. Mich., '18.  
Hercules, prop., 273 t., b. Buffalo, '43.  
Hercules, tug, exploded St. Lawrence r., '58, 7 lives lost.  
Hercules, tug, 61 g. t., b. '67, East Saginaw, passed out, '92.  
Hercules, Can. brig, 222 g. t., b. '63, Hamilton, in com.  
Hercules, bge., wrecked L. Hur., '70.  
Hercules, schr., 80 t., capsized L. Mich., '86.  
Hercules, Can. prop., 91 g. t., b. '86, Detroit, in com.  
Hermann, G. M. A., tug, 34 g. t., b. '91, Milwaukee, in com.  
Hero, Can. schr., on L. Ont., '40.  
Hero, Can. stmr. tug, b. '61, Hamilton.  
Hero, Can. prop., 37 g. t., b. '61, Hamilton, in com.  
Hero, Can. stmr., 342 g. t., b. '70, Sorel, in com.  
Hero, schr., 19 g. t., b. '70, Detroit, passed out, '97.  
Hero, Can. stmr., 159 n. t., b. '78, Sorel, in com.  
Heron, scow, sunk off Scow island, '91.  
Heron, Ile, Can. stmr., 152 n. t., b. '83, Sorel, in com., formerly La Cultivateur.  
Heron, schr., aground L. St. Clair, '68.  
Herschel, schr., 238 g. t., b. '72, New Jerusalem, O., in com.  
Hershey, Peter D., tug, 15 g. t., b. '92, Buffalo, in com.  
Hesper, prop., 1,858 g. t., b. '90, Cleveland, in com.  
Hessorot, P. S., Can. prop., 62 n. t., b. '89, Owen Sound, in com.  
Hewis, J. D., Can. prop., 51 g. t., b. '92, Midland, in com.  
Hiawatha, Can. tug, now the Osprey.  
Hiawatha, schr., sunk by col. L. Mich., '66.  
Hiawatha, prop., 1,398 g. t., b. '80, Gibraltar, in com.  
Hiawatha, Can. fry., 100 n. t., b. '80, Dresden, in com.  
Hiawatha, Can. bge., 594 n. t., b. '90, Garden Island, in com.  
Hibbard, Chas., schr., afloat, '54.  
Hibbard, W. B., schr., total loss L. Ont., '67.  
Hibbert, Sarah, schr., lost at sea, '61.  
Hibernia, Can. prop.  
Hickler, Clara, Can. tug, 42 g. t., b. '82, Buffalo, in com.  
Hickler, John, tug, 23 g. t., b. '76, Buffalo, in com.  
Hickler, Laura, sty., 20 g. t., b. '83, Buffalo, in com.  
Hickler, Pauline, 38 g. t., b. '92, Buffalo, in com.  
Hickory, bge., sunk off Leamington, Ont., '77.  
Hickox, C., prop., 208 g. t., b. '73, Black River, O., in com.  
Higby, Lem, schr., 52 g. t., b. '65, Sheboygan, passed out, '95.  
High Bridge, stmr., 11 g. t., b. '74, in com.  
Highland, sty., 16 g. t., b. '86, Toltensville, N. Y., in com.  
Highland Beauty, Can. schr., 78 a. t., b. '76, Oakville, in com.  
Highland Chief, scow, ashore L. Erie, '71.  
Highland Maid, schr., 17 g. t., b. '79, Buffalo, passed out, '93.  
Highlander, Can. schr., 300 g. t., b. '40, Coteau du Lac, broken up.  
Highlander, schr., wrecked L. Erie, '44.  
Highlander, stmr., 250 t., b. Kingston, '51.  
Highlander, Can. schr., 250 g. t., b. '50, Montreal.  
Higgie, i. schr., 440 g. t., later the George Sturges.  
Higgie, J. L., tug, 19 g. t., b. '71, Buffalo, in com.  
Hilda, schr., 14 g. t., b. '85, Milwaukee, passed out, '95.  
Hill, Cecelia, prop., 44 g. t., b. '96, Fish Creek, Wis., in com.  
Hill, Fred, schr., 268 t., b. Milwaukee, '54.  
Hill, I. N., schr., 194 g. t., later the Dan Maybee.  
Hill, J. C., scow, 135 t., damaged, '69.  
Hill, John J., schr., 231 t., foundered Fairport, '85.  
Hill, John J., prop., 974 g. t., b. '92, Marine City, in com.  
Hill, L. P., tug, 22 g. t., b. '89, Fish Creek, Wis., in com.  
Hill, W. H., prop., 14 g. t., b. '86, Erie, in com.  
Hills, J. H., bge., 509 t., b. Buffalo, '81.

- Hilliard, Maria, schr., b. Chicago, '44, wrecked Death's Door, '56.
- Hilton, prop., 166 g. t., b. '67, East Saginaw, in com.
- Hinchman, Kate, schr., 236 g. t., b. '62, Detroit, passed out, '97.
- Hinckley, bge., 309 t., b. '62, wrecked L. Erie, '87.
- Hinckley, Chas., bge., 309 t., b. Cleveland, '62, stranded L. Hur., '86.
- Hinda, sty., 58 g. t., b. '86, Baltimore, Md., in com.
- Hines, H. H., scow, ashore Lorain, '83.
- Hingston, W. J., tug, 22 g. t., b. '94, Buffalo, in com.
- Hinton, Francis, prop., 417 g. t., b. '89, Manitowoc, in com.
- Hippocampus, prop., foundered L. Mich., '68, 26 lives lost.
- Hippogriffe, schr., 295 t., b. Buffalo, '64.
- Hiram, schr., 60 t., ashore, '38.
- Hiram, Can. schr., 134 g. t., b. '76, Ottawa, in com.
- Hirondelle, scow, lost, '72.
- Hoag, Henry W., schr., 280 g. t., b. '62, Three Mile Bay, in com.
- Hoboken, schr., 299 g. t., b. '67, Clayton, in com.
- Hochelaga, Can. fry., 381 n. t., b. '86, Sorel, in com.
- Hodge, Samuel F., prop., 585 g. t. b., '81, Detroit, passed out, '97.
- Hodson, Fred A., Can. tug, 138 n. t., b. '90, Collingwood, in com.
- Hoeton, Roy, scow, 38 g. t., b. '89, Buffalo, in com.
- Hoffnung, tug, 21 g. t., b. '73, Sheboygan, in com.
- Hoffnung Bros., tug, 56 g. t., b. '90, Sheboygan, in com.
- Hogan, Mollie, 8 g. t., b. '97, Alexandria Bay, in com.
- Holden, Flora, tug, 19 g. t., b. '75, Pillar Point, N. Y., in com.
- Holden, Hendrick S., s. prop., 4,444 g. t., b. Cleveland, '98, in com.
- Holland, Grace, schr., 629 g. t., b. '80, Marine City, in com.
- Holland, Joseph A., lost L. Huron, with three lives, '70.
- Holland, Nelson C., schr., 564 g. t., b. '81, Marine City, in com.
- Holland, Robert, prop., 423 g. t., b. '72, Marine City, in com.
- Holley, Alex, s. schr., 2,721 g. t., b. '96, Superior, in com.
- Hollister, John, schr., 130 g. t., b. '35, Perrysburg, O., abandoned L. Erie '37.
- Hollister, John, stmr., 300 t., b. Perrysburg, '48, burned on L. Erie, rebuilt and lost, L. Huron.
- Hollister, Robert, schr., 120 g. t., b. '44, Maumee, O.
- Hollister, R., 273 t., wrecked near Chicago, '65.
- Holloway, A. I., tug, 18 g. t., b. '32, Buffalo, in com.
- Holmes, J. A., schr., 167 g. t., b. '67, Mears, Mich., in com.
- Holt, D. R., schr., passed out.
- Holt, Geo. W., schr., in com., '68.
- Holton, E. D., tug, 24 g. t., b. '74, Milwaukee, in com.
- Home, schr., 127 t., b. Sandusky, '43, wrecked '51, L. Erie.
- Home, scow, b. '54, Black River, O., sunk by col. L. Mich., '58.
- Home, schr., 125 g. t., b. '65, Port Huron, passed out '97.
- Home, schr., 91 t., b. Milwaukee, '67.
- Home Rule, Can. tug, 120 n. t., b. '90, Thorold, in com.
- Home, William, schr., 305 g. t., b. '71, Clayton, N. Y., sunk '94, L. Mich., 6 lives lost.
- Homer, schr., 455 g. t., b. '66, Sheboygan, in com.
- Homer, Adam, tug, 26 g. t. b. '90, Buffalo, in com.
- Homeward Bound, schr., 106 t., wrecked L. Ont., '65.
- Honest Boy, slp., 19 g. t., b. '90, Erin, Mich., in com.
- Honest John, schr., ashore Muskegon, '50, in com., '58.
- Honore, schr., wrecked near Dunkirk, '51.
- Honore, Can. tug, 29 n. t., b. '91, Vercheres, in com.
- Hood, Thomas, tug, 39 g. t., b. '81, Buffalo, in com.
- Hoosier, brig, 194 t., b. 42, Black River, O.
- Hope, English schr., 81 t., b. Detroit, 1771.
- Hope, Can. slp., b. about 1804, lost near St. Joseph's, L. Huron.
- Hope, schr., b. Ohio City, '47, lost near Beaver island, '55.
- Hope, Can. schr., lost Georgian Bay, '58.
- Hope, Can. scow, 131 g. t., b. '61, Chippewa, in com.
- Hope, Can. scow, 25 g. t., b. '66, Port Nelson, in com.
- Hope, schr. sunk L. Hur., '67.
- Hope, Can. prop., 182 n. t., b. '70, Detroit, in com.
- Hope, Can. tug, 21 n. t., b. '71, Levis, in com.
- Hope, prop, 11 g. t., b. '76, Toledo, in com.
- Hope, Can. tug, 231 n. t., b. '78, Sorel, in com.
- Hope, prop., 14 g. t., b. '90, Elk Creek, Pa., in com.
- Hope, prop., 8 g. t., b. '93, Ashtabula, passed out '95.
- Hope, Aggie, Can. schr., 262 t., b. Hamilton, '69.
- Hope, George T., prop., 1,558 g. t., b. '83, West Bay City, in com.
- Hope, J. A., schr., wrecked Port Burwell, '58.
- Hopkins, A. L., prop., 756 g. t., b. '80, Marine City, in com.
- Hopkins, Mark, prop., 732 g. t., b. '88, Grand Haven, in com.
- Hopkins, Polly, schr., 7 g. t., b. '87, Sodus Point, in com.
- Horn, Clara, bge., 242 g. t., b. '91, in com.
- Horner, Adam, prop., 26 g. t., b. '90, Buffalo, passed out '91.
- Hornet, schr., wrecked Good Harbor, L. Mich., '70.
- Horton, Adelaide, Can. prop., 125 t., b. Goderich, passed out.
- Horton, Anna, prop., wrecked Kincardine, '71.
- Hosanna, Can. prop., 83 n. t., b. '93, Sorel, in com.
- Hoskins, John, schr., 69 g. t., b. '70, Essex, in com.
- Hotchkiss, bge., in com., '79.
- Hotchkiss, Fred, Can. prop., 18 g. t., b. '70, Collingwood, in com.
- Houghton, George G., schr., 332 g. t., b. '73, Milwaukee, in com.
- Houghton, H., prop., 210 g. t., b. '89, West Bay City.
- Houpet, Robert, schr., 165 t., b. Grand Haven, '70.
- Houston, Gen., schr., total wreck, Fairport, '59.
- Howard, schr., sunk at Racine, '50.
- Howard, tug, 195 g. t., formerly Admiral D. D. Porter, b. '64, Wilmington, Del., in com.
- Howard, Can. schr., 168 g. t., b. '80, Montreal, in com.
- Howard, Chas., schr., 103 t., b. Huron, '45, wrecked Chicago, '56.
- Howard, F., schr., 126 t., b. '59, wrecked L. Ont., '83.
- Howard, Hattie, schr., 273 t., b. Port Huron, '68.
- Howard, Henry, prop., 261 t., b. Port Huron, '67, burned off Herson's island, '84.
- Howard, John P., schr., 97 g. t., b. '82, Champlain, in com.
- Howard, Kate E., schr., 96 g. t., b. '67, Holland, in com.
- Howe, H. E., bark, sailed Europe, '58, sold London, '60.
- Howe, Wm., schr., 99 g. t., b. '51, Chatham, N. Y., in com.
- Howell, schr., 408 t., b. Cleveland.
- Howell, John, tug, 14 g. t., b. '83, Buffalo, in com.
- Howes A., scow, capsized L. Erie, '66.
- Howland, Thomas H., schr., 298 g. t., b. '72, Manitowoc, in com.
- Howlett, Robert, schr., 165 g. t., b. '70, Grand Haven, in com.



- Hoyt, Colgate, s. prop., 1,252 g. t., b. '90, Duluth.  
 Hoyt, Jesse, schr., 337 g. t., later the Mary D. Ayer.  
 Hubbard, Henry, schr., in com., '33.  
 Hubbard, Henry, schr., capsized L. Hur., '45.  
 Hubbard, H. B., schr., sunk Cleveland, '62.  
 Hubbard, Newell, schr., 55 g. t., b. '67, Detroit, in com.  
 Hubbell, H. S., prop., 450 t., lost '88.  
 Hubby, L. M., bark, b. Cleveland, '55, capsized L. Mich., '55, 10 lives lost.  
 Hudson, schr., 125 t., b. Oswego, '36, sunk off Conneaut, '54.  
 Hudson, stmr., sunk near Cedar Point, '56.  
 Hudson, s. prop., 2,294 g. t., b. '88, Wyandotte, in com.  
 Hudson, Can. tug, 230 n. t., b. '91, Montreal, in com.  
 Hudson, tug, 20 g. t., b. '94, Buffalo, in com.  
 Hudson, stmr., lost '94, L. Mich.  
 Hudson, Hendrick, stmr., 759 t., b. Black River, O., '46, burned Cleveland, '60.  
 Hudson, J. L., tug, 18 g. t., b. '88, Huron, O., in com.  
 Hudson, Sarah E., schr., sunk by col., L. Erie, '63.  
 Hughes, James, schr., 166 t., b. Ohio City, '47, wrecked near Muskegon, '55.  
 Hulbert, Mary A., schr., sold to U. S. Gov., '63.  
 Hull, Charles B., sty., 14 g. t., b. '76, Detroit, in com.  
 Humber, Can. tug, 29 n. t., b. '73, Quebec, in com.  
 Humber, slp., b. before '50, Conneaut.  
 Humboldt, schr., damaged by col., Chicago, '68.  
 Hume, Jessie, Can. tug, 75 n. t., b. '94, St. Kits, in com.  
 Hume, Thomas, schr., 209 g. t., b. '70, Manitowoc, foundered L. Mich. '91, with all hands.  
 Humming Bird, schr., 25 g. t., b. '89, West Bay City, in com.  
 Humphreys, Gen. A. A., prop., 20 g. t., later the Edward Watkins.  
 Hungerford, S. G., schr., b. '66.  
 Hungarian, three master, b. Three Mile Bay, L. Ont., '53.  
 Hunt, Gov., schr., 186 t., b. Olcott, '53, lost L. Erie, '69.  
 Hunter, Can. armed brig, 80 t., b. '06, 10 guns, captured in battle Lake Erie.  
 Hunter, brig, in com. '46.  
 Hunter, prop., 680 t., b. Buffalo, '57, sunk by col., '69.  
 Hunter, bge., lost, '72.  
 Hunter, prop., 224 g. t., b. '77, Philadelphia, in com.  
 Hunter, scow, sunk near Milwaukee, '87.  
 Hunter, schr., 20 g. t., b. '87, Menekaunee, wrecked New Buffalo, '93.  
 Hunter, Elvira, schr., 25 g. t., b. '93, Hammond's Bay, Mich., wrecked, '95.  
 Hunt, John E., schr., b. Cape Vincent, before '53.  
 Hunter, John, Can. tug, 37 n. t., b. '85, Port Dalhousie, in com.  
 Hunter, Nellie, Can. schr., 210 n. t., b. '74, Dog Lake, in com.  
 Hunter, R., brig, 162 t., b. Buffalo, '41, damaged by col., '48.  
 Huntington, General, slp., b. '19, Black River, O., injured L. Erie, '19.  
 Huntress, schr., 350 t., wrecked L. Erie, '62.  
 Huntress, sty., 114 g. t., b. '80, Buffalo, in com.  
 Hur, Ben, schr., 298 t., damaged by col., L. Hur., '90.  
 Hurd, C. H., schr., 600 t., b. Detroit, '68.  
 Hurd, J. L., schr., sunk near the Manitous, '71, with all hands except Capt. W. O. Harrison.  
 Hurd, Joseph L., prop., 557 g. t., b. '69, Detroit, in com.  
 Hurdman, R., Can. prop., 93 g. t., b. '92, Kippewa Lake, in com.  
 Hurlburt, Chauncey, prop., 1,009 g. t., b. '74, St. Clair, in com.  
 Hurlbut, C., stmr., burned West Superior, '90.  
 Huron, brig, 104 t., b. Grand River, O., '14, re-built Black Rock, '16.  
 Huron, schr., in com., '32.  
 Huron, stmr., 140 t., b. Newport, '39, dismantled, '48.  
 Huron, slp., 11 t., b. Detroit, '43.  
 Huron, schr., wrecked Sandy Creek, '51.  
 Huron, stmr., 348 t., b. Newport, '52.  
 Huron, stmr., 527 t., b. Sorel, Ont., '54.  
 Huron, stmr., sunk Chicago, '57.  
 Huron, Can. stmr., sunk L. Ont., '55.  
 Huron, stmr., sunk at Port Austin, '61.  
 Huron, bark, 378 t., b. Port Huron, '64.  
 Huron, Can. cfy., 1,250 n. t., b. '75, Sarnia, in com.  
 Huron, Can. bge., 555 n. t., b. '81, Garden Island, in com.  
 Huron, Can. prop., 70 g. t., b. '82, Owen Sound, in com.  
 Huron, schr., sunk L. Erie, '90.  
 Huron, Can. bge., sunk near Cardinal, '93.  
 Huron, schr., 210 g. t., b. '93, in com.  
 Huron, prop., 1,945 g. t., b. '98, Lorain, in com.  
 Huron Bell, tug, 23 g. t., b. '89, Sand Beach, in com.  
 Huron City, prop., 368 g. t., b. '67, Sandusky, in com.  
 Hurricane, schr., foundered L. Mich., '60, 9 lives lost.  
 Hurst, steb., 129 g. t., b. '80, Havana, N. Y., in com.  
 Husordt, P. S., Can. prop., 45 g. t., b. '87, Owen Sound, in com.  
 Huseter, sch., 9 g. t., b. '93, Detroit, passed out, '94.  
 Hustler, schr., 13 g. t., b. '93, Detroit, in com.  
 Hutchinson, brig, 310 t., b. Southport, afloat, '55.  
 Hutchinson, C. H., schr., 297 t., b. '66, sunk L. Erie, '87.  
 Hutchinson, Emma C., schr., 736 g. t., b. '73, Port Huron, in com.  
 Hutchinson, John M., schr., 980 g. t., b. '73, Cleveland, in com.  
 Hutchinson, Jno. M., tug, 91 g. t., b. '93, Buffalo, in com.  
 Hutchinson, K. M., stmr., 189 g. t., b. '86, Oshkosh, in com.  
 Hutchinson, L. C., bge., 297 t., b. Cleveland, '82.  
 Hutchinson, Lizzie, Can. scow, 160 g. t., b. '69, Wellandport, in com.  
 Hutt, Hattie, schr., 265 g. t., formerly F. B. Stockbridge, b. '73, Saugatuck, Mich., in com.  
 Hyde, H., scow, lost L. Hur., '83.  
 Hyderabad, Can. bge., 290 n. t., b. '76, Kingston, in com.  
 Hydra, Can. tug, 6 g. t., b. '92, Trenton, in com.  
 Hyner, John L., tug, 13 g. t., b. '89, Ashtabula, in com.  
 Hyphen, schr., 425 t., b. Milan, '61, sunk Point Pelee, '68, 3 lives lost.  
 Iberville, St. John, Can. tug, 148 n. t., b. '96, Sorel, in com.  
 Ice, Can. scow, 41 g. t., b. '91, Sandwich, in com.  
 Ice King, bge., 209 g. t., b. '88, in com.  
 Ice Queen, bge., 209 g. t., b. '88, in com.  
 Iceberg, brig, foundered with all hands L. Ont., '57.  
 Icsman, B. B., schr., 289 g. t., b. '81, Sandusky, in com.  
 Ida, prop., 10 g. t., b. '67, Buffalo, passed out, '95.  
 Ida, prop., 57 g. t., b. '72, Mt. Clemens, in com.  
 Ida, Can. prop., 16 g. t., b. '81, Lake Barrie, in com.  
 Ida, Can. prop., 21 g. t., b. '81, Brockville, in com.  
 Ida, Can. prop., 108 n. t., b. '84, Deseronto, in com.  
 Ida, schr., in com., '45, passed out.  
 Ida, schr., 169 g. t., b. '67, Milwaukee, in com.  
 Ida, Can. schr., 58 g. t., b. '85, Rockland, in com.  
 Ida, Can. tug, 24 n. t., b. '89, Quebec, in com.  
 Ida and Mary, scow, ashore Sturgeon Point, '72.  
 Ida and Mary, scow, foundered L. Ont., '58, 2 lives lost.  
 Ida Belle, Can. schr., 97 g. t., b. '74, Kingsville, in com.



STEAMER VIRGINIA.



DETROIT FERRY BOAT.





- Ida E., prop., 181 g. t., b. '87, Oshkosh, in com.  
 Ida Jane, schr., 13 g. t., b. '81, Portage Harbor, in com.  
 Ida M., sty., 14 g. t., b. '90, Detroit, in com.  
 Ida May, schr., 22 g. t., b. '79, Fraser, Mich., in com.  
 Idaho, schr., 37 g. t., b. '64, in com.  
 Idaho, prop., 1,110 g. t., b. '63, Cleveland, sunk off Long Point, '97, 19 lives lost.  
 Idea, schr., 59 g. t., b. '89, Fort Howard, in com.  
 Ideal, stpd., 20 g. t., b. '91, Cleveland, in com.  
 Ideal, sty., 40 g. t., b. '85, Buffalo, in com.  
 Idle Hour, prop., 347 g. t., b. '93, Buffalo, in com.  
 Idler, stmr., 233 g. t., b. '86, Oshkosh, in com.  
 Idler, schy., 84 g. t., b. '64, East Haven, Conn., in com.  
 Idler, sty., 57 g. t., b. '86, New York, in com.  
 Idler, sty., 9 g. t., b. '83, Chatham, Ont., in com.  
 Idlewild, Can. slp., 23 g. t., b. '82, Kingston, in com.  
 Idlewild, i. stmr., 363 g. t., formerly Grace McMillan, b. '79, Wyandotte, in com.  
 Idlewood, sty., 15 g. t., b. '88, Buffalo, in com.  
 Illinois, brig, 240 t., b. '36, wrecked L. Mich., '43.  
 Illinois, prop., 553 t., b. Buffalo, '49, sunk by col., '65, L. Erie.  
 Illinois, schr., b. Sacket's Harbor, '34, wrecked L. Erie, '51.  
 Illinois, schr., sunk by col. '70, L. Mich.  
 Illinois, stmr., 755 t., b. Detroit, '37, made a prop., lost L. Hur., '68.  
 Illinois, stmr., 826 t., b. Detroit, '54, made bge., '69, and lost same year L. Hur.  
 Illinois, s. fire boat, b. Chicago, '98.  
 Imperial, prop., 68 g. t., b. '79, Manitowoc, in com.  
 Imperial, Can. prop., 115 n. t., b. '86, Toronto, in com.  
 Imperial, schr., in com. '59, sunk Georgian Bay, '89.  
 Imperial, stmr., sunk Chicago, '84.  
 Imperial, stcb., 95 g. t., b. '78, Chicago, in com.  
 Ina, prop., 16 g. t., b. '81, Buffalo, in com.  
 Ina, slp., 11 g. t., b. '86, Chicago, in com.  
 Independence, prop., 262 t., b. Chicago, '43, first prop. built on L. Mich., first steam craft on L. Sup., wrecked on L. Sup., '53, 4 lives lost.  
 Independence, schr., 21 t., wrecked off Black River, '18, crew drowned.  
 India, prop., 1,239 g. t., b. '71, Buffalo, in com.  
 India, schr., 316 g. t., b. '73, Trenton, Mich., in com.  
 India, stmr., 9 g. t., b. '92, in com.  
 Indian, Can. prop., 373 t., in com. '72, burned Toronto, '85.  
 Indian Bill, schr., 32 g. t., b. '92, Muskegon, in com.  
 Indian Queen, stmr., 112 t., b. Buffalo, '44, wrecked Dunkirk, '46, 20 lives lost.  
 Indiana, brig., b. '34, Black River, O., lost L. Mich., '41.  
 Indiana, prop., sunk L. Sup., '58.  
 Indiana, prop., 1,177 g. t., b. '90, Manitowoc, in com.  
 Indiana, stmr., 434 t., b. Toledo, '41, burned Conneaut, '48.  
 Indianola, scow, b. after '50, Conneaut.  
 Indra, sty., 10 g. t., b. '92, Buffalo, in com.  
 Indus, schr., made a brig and wrecked on seaboard.  
 Industry, Can. bge., 105 g. t., b. '79, Deseronto, in com.  
 Industry, schr., 92 t., b. Ohio City, '47, wrecked near Port Colborne, '56, went to pieces, '60.  
 Industry, schr., 55 g. t., b. '70, Manitowoc, in com.  
 Industry, schr., wrecked L. Mich., '82, 3 of crew lost.  
 Industry, Can. schr., 46 g. t., b. '92, Port Union, in com.  
 Industry, slp., on L. Erie in 1800.  
 Industry, tug, 80 g. t., b. '97, West Bay City, in com.  
 Inez, Can. tug, 71 n. t., b. '84, Welland, in com.  
 Ingersoll, R. G., prop., 69 t., burned L. Mich., '85.  
 Ingham, U. S. rev. cut., stationed Detroit, '53.  
 Ingomar, Can. tug, 22 g. t., b. '90, Carleton Place, in com.  
 Ingram, John C., tug, 30 g. t., b. '72, Buffalo, in com.  
 Ingwersen, stmr., burned Toledo, '86.  
 Inkerman, Can. prop., boiler exploded Toronto, '56, killing or badly wounding entire crew.  
 Inkerman, prop., exploded, Toledo, '57, 3 lives lost.  
 Inman, B. B., tug, 89 g. t., b. '95, Port Huron, in com.  
 Ino, schr., ashore Grand River, '54.  
 Ino, schr., 130 g. t., b. '63, Gibraltar, Mich., passed out, '95.  
 Inter Ocean, Can. prop., 148 g. t., b. '88, Collingwood, in com.  
 Inter Ocean, Can. prop., 144 g. t., b. '81, Nipissing, in com.  
 Inter Ocean, prop., 1,068 g. t., b. '72, Detroit, in com.  
 Interlaken, schr., 567 g. t., b. '93, Algonac, in com.  
 International, Can. cfy., 1,000 n. t., b. '72, Fort Erie, in com.  
 International, prop., 473 t., b. Buffalo, '53, burned Niagara river, '54.  
 International, schr., 389 t., wrecked L. Ont., '65.  
 International, Can. prop., 82 g. t., b. '71, Tonawanda, in com.  
 International, Can. prop., 395 n. t., b. '81, Montreal, in com., formerly the South Eastern.  
 International, stmr., 1,100 t., b. Buffalo, '57, passed out.  
 International, tug, 62 g. t., b. '84, Cleveland, in com.  
 International, tug, 144 g. t., b. '89, Buffalo, in com.  
 Invincible, schr., 437 t., b. Clayton, L. Ont., before '52, total loss, '69.  
 Iona, Can. prop., 284 n. t., b. '92, Trenton, in com.  
 Iona, Can. schr., 158 g. t., b. '90, Rockland, in com.  
 Ione, prop., 15 g. t., b. '78, Watertown, passed out, '97.  
 Ionia, prop., 1,287 g. t., b. '90, Grand Haven, in com.  
 Iosco, bge., 198 g. t., b. '73, in com.  
 Iosco, prop., 2,051 g. t., b. '91, Bay City, in com.  
 Iota, Can. prop., 6 g. t., b. '85, Spanish River, in com.  
 Iowa, Can. bge., 422 n. t., b. '74, Quebec, in com.  
 Iow, brig, 157 t., b. Cape Vincent, wrecked Point Albino, '48.  
 Iowa, prop., 1,157 g. t., b. '96, Manitowoc, in com.  
 Iowa, schr., sunk by collision, L. Erie, '40.  
 Iowa, schr., foundered L. Mich., '56, 9 lives lost.  
 Iowa, stmr, 981 t., b. Buffalo, '52, made prop. and finally a bge. in '68, lost '69.  
 Ireland, Can. bge., 420 n. t., b. '66, Brockville, in com.  
 Ireland, Can. brig, 230 t., b. Kingston, '45.  
 Ireland, Can. prop., burned on St. Lawrence r., '52.  
 Ireland, schr., b. '46, Maumee, O., went to pieces Windmill Point, '54.  
 Ireland, W. S., Can. prop., 145 n. t., b. '72, Wallaceburg, in com.  
 Irene, schr., 78 g. t., b. '69, in com.  
 Irene, Can. prop., 7 g. t., b. '87, Toronto, in com.  
 Irene, Can. prop., 24 g. t., b. '87, Hamilton, in com.  
 Irene, prop., 10 g. t., b. '93, Menominee, burned Menominee, '97.  
 Irene, slpy., 21 g. t., b. '91, Chicago, in com.  
 Iris, schr., 62 g. t., b. '66, Port Huron, in com.  
 Iris, scow, 82 t., total loss, '69.  
 Iris, sly., 12 g. t., b. '95, in com.  
 Iris, Can. tug, 9 g. t., laid up, '97.  
 Irish, S. A., schr., 234 g. t., b. '74, Depere, in com.  
 Iron Age, prop., 1,114 g. t., b. '80, Detroit, in com.  
 Iron Chief, prop., 1,154 g. t., b. '81, Detroit, in com.  
 Iron City, prop., 934 t., b. '56, passed out.  
 Iron City, schr., 648 g. t., formerly Daniel E. Bailey, b. '74, Toledo, chartered ocean, '98.  
 Iron Cliff, schr., 1,116 g. t., b. '81, Detroit, wrecked Chicago, '98.

- Iron Duke, prop., 1,152 g. t., b. '81, Detroit, in com.  
 Iron King, prop., 1,702 g. t., b. '87, Detroit, in com.  
 Iron Queen, schr., 1,384 g. t., b. '87, Detroit, in com.  
 Iron Range, scow, 170 g. t., b. '97, in com.  
 Iron State, schr., 1,127 g. t., formerly G. S. Hazard, b. '74, Tonawanda, chartered ocean, '98.  
 Iron State, schr., 853 g. t., b. Detroit, '80, later the Metacomet.  
 Irondequoit, prop., 23 g. t., b. '82, Rochester, in com.  
 Ironsides, prop., b. '64, Cleveland, lost with 28 lives near South Haven, '73.  
 Ironton, schr., 785 g. t., b. '73, Buffalo, sunk by col. L. Hur., '94, 5 lives lost.  
 Iroquois, Can. bge., 424 n. t., b. '76, Garden Island, in com.  
 Iroquois, bark, built by French near Ogdensburg in 1759, captured by the English in 1760.  
 Iroquois, brig, b. Three Mile Bay, L. Ont., '46.  
 Iroquois, prop., 1,698 g. t., b. '92, Marine City, in com.  
 Iroquois, Can. schr., 100 g. t., b. '31, Prescott, withdrawn.  
 Irr, Clara, tug, 13 g. t., b. '67, Mackinac, passed out, '91.  
 Irving, George, schr., 73 g. t., b. '65, Detroit, passed out, '95.  
 Irving, Washington, schr., lost L. Erie, '60, 6 lives lost.  
 Irwin, J., schr., 101 t., b. Cleveland, '45, wrecked L. Mich., '55.  
 Irwin, Lewis C., schr., 113 t., capsized L. Mich., '55, total loss, '69.  
 Isabella, bge., wrecked Put-in-Bay, '78.  
 Isabella, brig, 350 t., b. Cleveland, '48.  
 Isabella, Can. prop., 44 g. t., b. '69, L. Simcoe, in com.  
 Isabella, schr., 180 t., wrecked Long Point, '67.  
 Isabella, Can. schr., 13 g. t., b. '69, Port Stanley, in com.  
 Isabella, Can. schr., 33 g. t., b. '75, River Puce, in com.  
 Isbell, Wayne, tug, 31 g. t., formerly T. R. Merrill, b. '76, Saginaw, in com.  
 Isham, Geo. P., tug, in com., '97.  
 Ishamay, Can. prop., 7 g. t., b. Brockville, in com.  
 Ishpeming, schr., 418 g. t., b. '72, Detroit, in com.  
 Isis, Can. prop., 132 n. t., b. '86, Deseronto, in com.  
 Island, Can., prop., b. Kingston, '45.  
 Island, schr., 30 t., in com. '69, passed out.  
 Island Belle, prop., 90 g. t., formerly Island Wanderer, b. '79, Alexandria Bay, in com.  
 Island Belle, prop., 31 g. t., formerly Wm. St. John, b. '82, Toledo, in com.  
 Island Belle, prop., 153 g. t., b. '91, Buffalo, in com.  
 Island Belle, stmr., 86 t., burned Detroit, '85.  
 Island Chief, prop., 30 g. t., b. '79, Alexandria Bay, passed out, '97.  
 Island City, schr., 54 g. t., b. '59, St. Clair, sunk L. Mich., '94, 2 lives lost.  
 Island Dove, schr., 29 g. t., b. '82, Waddington, N. Y., passed out, '95.  
 Island Maid, schr., 181 t., capsized L. Erie, '85.  
 Island Packet, on L. Ont., before 1809.  
 Island Queen, Can. fystmr., 70 g. t., b. 43, Kingston, in com.  
 Island Queen, Can. fry., 44 n. t., b. 89, Toronto, in com.  
 Island Queen, Can. prop., 112 n. t., b. '87, Kingston, in com.  
 Island Queen, stmr., 173 t., b. Kelley's Island, '55, captured by Confederates, L. Erie, '64.  
 Island Queen, schr., wrecked Straits, '59.  
 Island Queen, 38 g. t., b. '79, Irondequoit Bay, in com.  
 Island Queen, Can. stmr., 70 t., b. Kingston, '43.  
 Island Rambler, stmr., in com., '77.  
 Island Wanderer, prop., 71 g. t., b. '79, Alexandria Bay, later the Island Belle.  
 Islander, stmr., 73 t., b. Kelley's Island, '46, sunk St. Clair Flats, '61.  
 Islander, stmr., 118 g. t., formerly John Thorn, b. '71, Rochester, in com.  
 Islander, prop., 291 g. t., b. 95, Benton Harbor, in com.  
 Islay, s. tug, 27 g. t., b. 92, Superior, in com.  
 Isle La Motte Boy, slp., 17 g. t., b. '90, Rouse's Point, N. Y., in com.  
 Isle Royal, stmr., sunk near Susick island, '85.  
 Italia, prop., 2,036 g. t., b. '89, Marine City, in com.  
 Itasca, tug, in com., '68.  
 Itasca, schr., 344 g. t., b. '73, Milwaukee, passed out, '96.  
 Ithaca, schr., in com., '69.  
 Ivanhoe, schr., in com., '49, sunk by col. L. Erie, '55.  
 Ivanhoe, s. stmr., 277 g. t., b. '68, Buffalo, in com.  
 Ives, tug, in com., '61.  
 Ives, J. R., schr., ashore L. Erie, '50.  
 Ives, S. H., schy., 27 g. t., b. '79, Detroit, in com.  
 Ivy, Can. prop., 7 g. t., b. '84, Brockville, in com.  
 I Wonder, sty., 16 g. t., b. '97, Alexandria Bay, in com.  
 I X L, prop., 13 g. t., b. '88, Lorain, in com.  
 I & M. C., stcb., 90 g. t., b. '83, Lockport, in com.  
 Jacinto, San, schr., in com., '62.  
 Jack, Can. prop., now prop. Bothenia.  
 Jackman, Frank, Can. tug, 63 n. t., b. '68, Buffalo, in com.  
 Jackson, Can. schr., 157 g. t., b. '81, Hull, in com.  
 Jackson, Andrew, schr., 189 g. t., b. '74, Grand Haven, in com.  
 Jackson, Gen., schr., 60 t., broken up.  
 Jackson, Gen., stmr., 50 t., b. Mt. Clemens, '34, broken up.  
 Jackson, G. K., schr., 400 g. t., b. '82, Marine City, in com.  
 Jackson, Jim, tug, passed out.  
 Jamaica, schr., 390 t., b. Oswego, '67, capsized L. Hur., '72, ashore Glencoe, '85.  
 James, Can. bge., 160 t., b. Ottawa, '81.  
 James, Can. schr., 153 g. t., b. '82, Montreal, in com.  
 James, Henry R., prop., 2,048 g. t., b. '90, Detroit, in com.  
 Jamieson, Wm., Can. schr., 197 n. t., b. '78, Deseronto, in com.  
 Jane, Can. schr., b. York, about '15.  
 Jane, schr., damaged, '46.  
 Jane, schr., capsized Little Point Sable, '85.  
 Jane Bell, schr., in com., '69, wrecked L. Erie, '80.  
 Jane, Ida, schr., 13 g. t., b. '81, Portage Harbor, passed out, '91.  
 Jane Louisa, schr., damaged L. Erie, '46.  
 Jane Lucy, schr., 20 t., passed out.  
 Jane Mary, bark, 397 t., b. St. Catharines, '62.  
 Japan, s. prop., 1,239 g. t., b. '71, Buffalo, in com.  
 Jarecki, M., prop., 645 t., b. '67, wrecked Point au Sable, '83.  
 Java, schr., lost Dunkirk, '58.  
 Java, prop., sunk off Point au Sable, '78.  
 Jay, tug, sunk Manistee, '85.  
 Jay Bird, schr., 53 g. t., b. '69, Bay City, passed out, '96.  
 Jay, John, stmr., burned L. George, '56.  
 Jean, tug, 13 g. t., b. '89, Buffalo, in com.  
 Jeanette, schr., 329 g. t., b. '81, Mt. Clemens, in com.  
 Jeanette, Olive, schr., 1,271 g. t., b. '90, West Bay City, in com.  
 Jeanie, stmr., 193 g. t., b. '89, Trenton, passed out, '95.  
 Jeannette, slp., 11 g. t., b. '93, Chicago, in com.

- Jefferson, prop., 344 t., b. Buffalo, '53, condemned, '63.  
 Jefferson, schr., lost L. Mich., '44.  
 Jefferson, schr., b. Clayton, L. Ont., before '52.  
 Jefferson, schr., wrecked L. Mich., '70.  
 Jefferson, rev. cut., b. Oswego, '44, passed to the high seas about '46.  
 Jefferson, U. S. brig, 500 t., 22 guns, b. L. Ont., '14.  
 Jefferson, Thos., stmr., 428 t., b. Erie, '34, converted into a floating elevator at Buffalo.  
 Jeffrey, C., schr., 173 t., b. Pt. Dalhousie, '67.  
 Jeffries, Cecelia, schr., ashore Cleveland, '74.  
 Jeffry, John H., Jr., tug, 12 g. t., b. '92, Duluth, in com.  
 Jemima, one of first American vessels on lakes, b. Hanford's Landing, near Rochester, 1798.  
 Jena, schr., 55 t., b. '34, passed out.  
 Jenkins, Louisa, schr., wrecked Point Albino, '33, wrecked L. Erie, '41.  
 Jenks, Edward H., prop., 150 g. t., formerly the E. M. Foster, b. '82, Port Dover, sunk by col. '91.  
 Jenness, B. W., schr., 356 g. t., b. '67, Detroit, in com.  
 Jennie, Can. bge., 528 n. t., b. '71, Garden Island, in com.  
 Jennie, schr., 53 g. t., b. '91, Erin, Mich., in com.  
 Jennie, Can. schr., 92 g. t., b. '81, Tidnish, in com.  
 Jennie, A. H., Can. prop., 108 n. t., b. '82, Pt. Rowan, in com.  
 Jennie and Annie, schr., 400 t., damaged, '69.  
 Jennie R., sty., 15 g. t., b. '88, Marquette, in com.  
 Jennings, William, tug, in com. '68.  
 Jennings, W. G., schr., 28 g. t., b. '84, Saginaw, passed out, '96.  
 Jenny, schr., 15 g. t., b. '89, Egg Harbor, Wis., passed out, '96.  
 Jenny, Edwin, schr., sunk L. Erie by col., '44.  
 Jenny, W. LeBaron, s. schr., 366 g. t., b. '97, West Bay City, in com.  
 Jerome, tug, 19 t., b. '69, sunk near Baby's Point, '81.  
 Jerry, Gordon, Can. prop., 124 n. t., b. '85, Bascomb, in com.  
 Jersey City, prop., about 600 t., b. Cleveland, '54, lost L. Erie, '60, with 19 lives.  
 Jessie, Can. slp., 35 g. t., b. '69, Clayton, in com.  
 Jessie, schr., wrecked Long Pt., '48.  
 Jessie, Can. tug, 139 n. t., b. '69, Stromness, in com.  
 Jessie, schr., lost with crew of 9, L. Ont., '69.  
 Jessie, schr., wrecked Salmon Point, '70.  
 Jessie, schr., 154 g. t., b. '64, Ashtabula, passed out, '93.  
 Jessie R., sty., 15 g. t., b. '88, Marquette, passed out, '95.  
 Jet, Can. bge., 398 n. t., b. '71, Quebec, in com.  
 Jewett, H. J., s. prop., 1,953 g. t., b. '82, Buffalo, in com.  
 Jewett, John, schr., 103 g. t., b. '66, Vernilion, in com.  
 J. I. C., schr., 16 g. t., b. '85, Milwaukee, passed out, '93.  
 Joe, Can. sty., now the Gilphie.  
 Joe, sty., 88 g. t., b. '89, Grand Haven, in com.  
 Joehanna, Can. scow, 40 g. t., b. '67, Pike Creek, in com.  
 John, William, schr., wrecked L. Ont., '70.  
 John, William, Can. prop., 14 g. t., b. '88, Fesserton, in com.  
 Johnson, Andrew, stmr., 310 g. t., b. '65, Buffalo, in com.  
 Johnson, C. H., schr., 332 g. t., b. '70, Marine City, wrecked, '95.  
 Johnson, Charles J., stcb., 99 g. t., b. '87, Phoenix, N. Y., in com.  
 Johnson, C. N., schr., 288 g. t., b. '56, Buffalo, sunk near Amherstburg, '95.  
 Johnson, D. D., tug, 17 g. t., b. '88, Saginaw, in com.  
 Johnson, Geo. W., prop., 334 g. t., formerly D. W. Powers, b. '71, Marine City, passed out, '95.  
 Johnson, Geo. W., schr., 348 g. t., b. '71, Marine City, in com.  
 Johnson, H., tug, boiler exploded, Saginaw r., '67, 4 persons killed.  
 Johnson, Hattie, schr., sunk L. Hur., '68.  
 Johnson, Hattie, schr., wrecked L. Mich., '80.  
 Johnson, Henry J., prop., 1713 g. t., b. '88, Cleveland, in com.  
 Johnson, Henry W., tug, 22 g. t., b. '65, New York, in com.  
 Johnson, Henry W., schr., 104 g. t., b. '65, New York, passed out, '92.  
 Johnson, I. A., schr., 95 g. t., b. '73, Dover's Bay, O., passed out, '93.  
 Johnson, John, tug, 59 g. t., b. '87, Buffalo, in com.  
 Johnson, J. F., stmr., lost '91, L. Mich.  
 Johnson, J. H., tug, 66 g. t., b. '82, St. Joseph, Mich., passed out, '95.  
 Johnson, J. W., schr., 20 g. t., b. '74, Grand Haven, passed out, '96.  
 Johnson, John T., schr., 448 g. t., b. '73, Huron, O., in com.  
 Johnson, Laura, schr., 34 g. t., b. '82, South Haven, passed out, '91.  
 Johnson, L. B., tug, 42 g. t., b. '68, Chicago, in com.  
 Johnson, Maggie, schr., 27 g. t., b. '75, White Lake, Mich., passed out, '95.  
 Johnson, Maria F., schr., sunk L. Erie, '68.  
 Johnson, Nellie, 41 g. t., b. '94, St. James, Mich., in com.  
 Johnson, O. R., schr., 127 g. t., b. '66, Saugatuck, in com.  
 Johnson, P. L., prop., 159 g. t., later the Daniel L. Hebard.  
 Johnson, R. R., schr., foundered with all hands off Fairport, '54.  
 Johnson, Solon H., stmr., 100 t., b. '75, wrecked L. Mich., '87.  
 Johnson, Sarah Ann, schr., ashore Grand Haven, '81.  
 Johnson, Willard, schr., 400 t., b. Oswego, wrecked L. Hur., '65.  
 Johnson, Wm., Can. tug, 87 n. t., b. '78, Garden Island, in com.  
 Joker, schr., 14 g. t., b. '85, Sebewaing, in com.  
 Joker, tug, 14 g. t., b. '85, Sebewaing, in com.  
 Joliet, s. prop., 1,921 g. t., b. '90, Cleveland, in com.  
 Joliet, stcb., 102 g. t., b. '83, Lockport, in com.  
 Jonas, schr., sunk by col., Georgian bay, '98.  
 Jones, Arthur, tug, 34 g. t., b. '93, Benton Harbor, in com.  
 Jones, B. B., tug, 109 t., b. Milwaukee, '64, 7 of crew killed by explosion of boiler at Port Huron, '71.  
 Jones Bros., Can. bge., 100 g. t., b. '75, Ithaca, in com.  
 Jones, Chester B., schr., 493 g. t., b. '73, Saginaw, in com.  
 Jones, C. W., tug, in com., '72.  
 Jones, C. W., Can. tug, 48 n. t., b. '85, Levis, in com.  
 Jones, E., schr., 646 t., b. '67, wrecked near Racine, '83.  
 Jones, Elizabeth, bark, 754 t., b. Buffalo, '67.  
 Jones, Elvy, schr., b. Buffalo, '67.  
 Jones, Fanny L., schr., 112 g. t., b. '67, Black River, foundered L. Erie, '90.  
 Jones, J. M., schr., lost L. Mich., '61.  
 Jones, John V., schr., 201 g. t., b. '75, Manitowoc, in com.  
 Jones, U. S. brig, 500 t., 22 guns, b. L. Ont., '14.  
 Jones, William, schr., 154 g. t., b. '53, Manitowoc, passed out, '95.  
 Jones, William, schr., 385 g. t., b. '62, Black River, O., in com.



- Jordan, Beebe J., prop., 16 g. t., b. '85, Bay City, passed out, '91.
- Jose, tug, 14 g. t., b. '90, Buffalo, in com.
- Joses, schr., 120 g. t., b. '66, Holland, Mich., in com.
- Josie, prop., 20 g. t., b. '93, Bay City, in com.
- Joseph, bge., 292 t., ashore Caseville, '85.
- Josephine, brig, wrecked Port Burwell, '55.
- Josephine, prop., 70 t., b. Gibraltar, '70.
- Josephine, prop., 36 g. t., b. '79 Sandusky, burned Sandusky bay, '93.
- Josephine, prop., 774 g. t., b. '86, Milwaukee, in com.
- Josephine, schr., 222 g. t., later the Russell Dart.
- Josephine, schr., 175 t., b. Oswego, '45, wrecked Dunkirk, '48.
- Josephine, schr., 295 g. t., b. '57, Wilson, N. Y., sunk by col., '92.
- Josephine, schr., capsized L. Erie, '66.
- Josephine, schr., 30 g. t., b. '66, Swan Creek, Mich., in com.
- Josephine, slp., 15 g. t., b. '81, Harrison, Mich., in com.
- Journeyman, schr., 12 g. t., b. '88, Bell, Mich., in com.
- Journeyman, schr., 235 g. t., b. '73, Bay City, passed out, '97.
- Joy, schr., 130 g. t., b. '35, Perrysburg, O.
- Joy, James F., schr., 554 t., b. '66, sunk Ashtabula, '87.
- Joy, Walter, schr., in com. '33, ashore L. Erie, '45.
- Jays, prop., 268 g. t., b. '84, Milwaukee, in com.
- J. R. A. No. 1, Can. scow, 43 g. t., b. '84, Tonawanda, in com.
- J. R. A. No. 2, Can. scow, 43 g. t., b. '84, Tonawanda, in com.
- Jubilee, Can. prop., 54 g. t., b. Portsmouth, Ont., '97, in com.
- Judd, E. T., schr., 389 g. t., b. '72, Bay City, in com.
- Judge, slp., 18 g. t., b. '89, Conneaut, in com.
- Julia, U. S. schr., 82 t., 3 guns, on L. Ont., '12, captured by British, '13, renamed Confiance, recaptured by U. S., '13.
- Julia, schr., 37 t., burned, '55.
- Julia, Can. prop., 113 n. t., b. '66, Montreal, in com., formerly Elfin.
- Julia, schr., 60 t., damaged, '69.
- Julia, Can. schr., 115 g. t., b. '75, Smith's Falls, in com.
- Julia, schr., 37 g. t., b. '80 Bay City, wrecked near Sand Beach, '96.
- Julia, Can. schr., sunk L. Ont., '83.
- Julia, schr., 47 g. t., b. '88, Fort Howard, in com.
- Julia, slp., 43 g. t., b. '84, South Hero, Vt., in com.
- Julia, sty., 36 g. t., b. '80, Bay City, passed out, '91.
- Julian and O'Brien, Can. tug, 59 g. t., b. Buffalo, '96.
- Juliet, prop., 61 g. t., b. '89, West Bay City, in com.
- Juliet, schr., sunk Port Burwell, '70.
- Juliette, schr., b. '34, Black River, O., sunk L. Erie, '71.
- Jumbo, Can. schr., 159 g. t., b. '83, Smith's Falls, in com.
- Jumbo, schr., 6 g. t., b. '87, Saganing, Mich., passed out, '93.
- Jumbo, Can. scow, 149 g. t., '84, Sorel, in com.
- Juneau, Solomon, schr., 90 t., b. Milwaukee, '36, lost L. Ont.
- Juniata, schr., 64 g. t., now the Wave Crest.
- Juniata, prop., 1,708 g. t., b. '78, Buffalo, in com.
- Junita, sty., 20 g. t., b. '75, Clayton, in com.
- Junius, schr., sunk Long Point, '66.
- Juno, bge., sunk St. Lawrence r., '73.
- Juno, Can. prop., 10 g. t., b. '80, Trenton, in com.
- Juno, Can. prop., 321 n. t., b. '85, Wallaceburg, in com.
- Juno, Can. prop., 17 g. t., b. '90, March Landing, in com.
- Juno, scow, b. Black River, '53, sunk Cleveland, '54, sunk L. Erie, '75.
- Juno, Can. stmr., 321 t., b. Wallaceburg, '85.
- Juno, Can. tug, 46 n. t., b. '87, Goderich, in com.
- Jupiter, schr., 253 g. t., b. '57, Irving, N. Y., in com.
- Jura, schr., 227 g. t., b. '62, Milan, O., in com.
- Kaiser, Wilhelm, tug, 28 g. t., b. '74, Grand Haven, in com.
- Kakabeka, Can. stmr., 75 t., b. '79, wrecked L. Sup., '97.
- Kalamazoo, prop., 288 g. t., b. '88, Saugatuck, sunk by col., '92.
- Kalista, sty., 10 g. t., b. '92, Geneva, O., in com.
- Kaliyuga, prop., 1,941 g. t., b. '87, St. Clair, in com.
- Kalkaska, prop., 679 g. t., b. '84, St. Clair, in com.
- Kaloolah, Can. stmr., 350 t., b. Collingwood, '53.
- Kaloolah, stmr., 450 t., b. Buffalo '53, wrecked L. Hur., '62.
- Kanaka, stmr., 14 g. t., b. '91, in com.
- Kane, E. K., scow, b. '61, Black River, O., passed out.
- Kansas, schr., foundered L. Mich., '56, 11 lives lost.
- Kanter, E., schr., 378 t., b. Newport.
- Kanters, R., schr., 164 g. t., formerly City of Woodstock, b. '73, Manitowoc, wrecked Pilot island, '96.
- Karste, Fritz, tug, 27 g. t., formerly R. Davis, b. '76, Sheboygan, in com.
- Karl, Minnie, tug, 23 g. t., b. '83, Sheboygan, in com.
- Kasota, prop., 1,660 g. t., b. '84, Cleveland, later the A. A. Parker.
- Katahdin, Can. bge., 433 n. t., b. '88, Owen Sound, in com.
- Katahdin, prop., 1,380, g. t., b. '95, West Bay City, chartered ocean service, '98.
- Kate, Can. schr., 104 n. t., b. '66, Oakville, in com.
- Kate, sty., 47 g. t., b. '89, Bay Mills, Mich., in com.
- Kate, tug, wrecked, '70.
- Kate, schr., wrecked, L. Ont., '70.
- Kathleen, Can. prop., now Can. prop. City of London.
- Kathleen, Can. schr., 94 g. t., b. '73, Ottawa, in com.
- Kathleen, Can. prop., 75 n. t., b. '86, Toronto, in com.
- Katie, tug, sunk by col., Black Rock harbor, '80.
- Kaway, Rae, schr., lost '91, L. Mich.
- Keane, Edward, prop., 377 g. t., later the Little Wisahicken.
- Kearsarge, s. prop., 3,093 g. t., b. '94, Chicago, in com.
- Keating, A. C., schr., 326 g. t., b. '74, Trenton, in com.
- Kedde, T., Can. tug, now the prop. John Lee, Sr.
- Keepsake, schr., 286 g. t., b. '64, Marine City, foundered L. Erie, '98.
- Keepsake, bge., 345 t., foundered L. Hur., '85.
- Keepsake, Can. scow, 45 g. t., b. '80, River Puce, in com.
- Keewatin, Can. schr., 309 n. t., b. '88, Lakeport, in com., formerly schr. Paragon.
- Keeweenaw, schr., sunk near Neebish rapids, '89.
- Keith, Ida, schr., 489 g. t., b. '73, Saugatuck, in com.
- Keith, Wm. G., schr., b. Port Huron, '69.
- Kelderhouse, J., tug, 43 g. t., b. '84, Buffalo, in com.
- Kelderhouse, John, 500 g. t., b. '57, Bay City, in com.
- Keller, Hugo, stch., 130 g. t., b. '90, Ithaca, in com.
- Keller, Willie, schr., 425 t., sunk by col. near au Sable, '88.
- Kelley, schr., wrecked, Windmill Point, L. Erie, '70.
- Kelley, tug, burned near Herson's island, '85.
- Kelley Bros., tug, 17 g. t., b. '79, Muskegon, passed out, '94.
- Kelley, Fred., prop., 770 g. t., b. '71, Toledo, in com.
- Kelley, Kate, schr., 350 t., total loss, '69.
- Kelly, C. O., prop., 259 t., burned Pembroke, '85.
- Kelly, Edward, schr., 776 g. t., b. '74, Port Huron, in com.

- Kelly, Georgie, schr., 370 g. t., b. '74, Salzburg, Mich., in com.
- Kelly, Kate, schr., 257 g. t., b. '67, Tonawanda, foundered Racine Point, '95 with all hands.
- Kellogg, A. R., bge., 619 g. t., b. '82, in com.
- Kellogg, Chas., tug., made Can. tug Charlton, '84.
- Kelpie, schr., ashore L. Mich., '65.
- Kelton, Minnie E., prop., 632 g. t., b. '94, West Bay City, in com.
- Kempt, Sir. James, Can. schr., 200 g. t., b. '29, Bath.
- Kendall, Harvey J., prop., 399 g. t., b. '92, Marine City, in com.
- Kendrick, R., Can. prop., 15 g. t., b. '74, Morrisburg, in com.
- Kennedy, James, tug, 10 g. t., b. '95, Buffalo, in com.
- Kennedy, Wm., tug, 86 g. t., b. '93, Buffalo, in com.
- Kenosha, schr., 377 t., b. Cleveland, '54, wrecked Chicago, '56.
- Kenosha, prop., 645 t., burned Sarnia, '64.
- Kenozha, Can. prop., 191 g. t., b. '83, Gravenhurst, in com.
- Kent, stmr., 180 t., b. Chatham, Ont., '39, sunk L. Erie by col. '45, 7 lives lost.
- Kent, Can. schr., wrecked Thirty Mile creek, '45.
- Kent, H. A., prop., burned off Gravelly Bay, '54.
- Kent, Helen, schr., 144 t., abandoned L. Mich., '67.
- Kent, Henry A., schr., 771 g. t., b. '73, Detroit, foundered L. Sup., '97.
- Kentucky, Can. prop., b. about '55, passed out.
- Kentucky, prop., 366 t., b. Buffalo, '53.
- Kentucky, schr., 110 t., b. Three Mile Bay, '36, wrecked L. Ont., '51.
- Kenzie, John, brig, in com. '33, carried first wheat cargo L. Mich. to Buffalo, '36.
- Kersey, schr., b. Clayton, N. Y.
- Kershaw, Charles J., prop., 1,323 g. t., b. '74, Bangor, Mich., wrecked L. Sup., '95.
- Kershaw, C. J., bark, 382 t., b. Cleveland, '57, sailed Detroit to Liverpool '57, returned '58.
- Ketcham, schr., sunk Milwaukee, '64.
- Ketcham, John B., s. prop., 909 g. t., b. '92, Toledo, in com.
- Ketcham, V. H., prop., 1,660 g. t., b. '74, Marine City, in com.
- Ketchum, schr., 177 t., b. '55, wrecked L. Mich., '83.
- Ketchum, James L., schr., 414 g. t., b. '67, Bangor, Mich., in com.
- Kewaunee, schr., 210 g. t., b. '66, Port Huron, in com.
- Kewanaw, schr., 493 g. t., b. '66, Marine City, in com.
- Keweenaw, stmr., 800 t., b. Marine City, '66.
- Keweenaw, s. prop., 2,511 g. t., b. '91, West Bay City, passed out, '95.
- Keyes, Jerome C., sty., in com., '68.
- Keyes, Mary E., b. Conneaut, '63.
- Keys, D. H., schr., 183 g. t., b. '73, Trenton, in com.
- Keys, M. O., schr., b. '66, passed out.
- Keystone, s. tug., 94 g. t., b. '91, Buffalo, in com.
- Keystone, prop., 722 g. t., b. '80, Buffalo, burned L. Mich., '98.
- Keystone State, stmr., 1,354 t., b. Buffalo, '49, foundered Saginaw bay, '61, 33 lives lost.
- Khartoun, Can. prop., 63 g. t., b. '85, Ernestown, in com.
- Kidd, Josephine, prop., burned Georgian Bay, '82.
- Kidd, Minnie, Can. tug, 19 n. t., b. '83, Warton, in com.
- Kilbola, 396 t., b. Detroit, '58.
- Kilbola, 71 g. t., b. Detroit, '88.
- Kildonan, Can. bge., 610 n. t., b. '88, Kingston, in com.
- Killarney, Belle, Can. tug, 34 n. t., b. '92, Collingwood, in com.
- Kimball, Charles, schr., 29 g. t., b. '83, Charlevoix, in com.
- Kimball, S. H., schr., in com., '50.
- Kimball, S. H., schr., 318 g. t., b. '64, Vermilion, O., sunk by col. L. Hur., '95.
- Kimball, W. C., schr., 33 g. t., b. '88, Manitowoc, passed out, '95.
- Kincardine, prop., wrecked French river, '88.
- King of Algiers, Can. schr., 150 g. t., b. '56, Toronto.
- King, Belle, tug, sunk Peach Point, '77.
- King, Ben, Can. prop., 139 n. t., b. '95, Kingston, in com.
- King, C. A., schr., 316 g. t., b. '63, Cleveland, foundered L. Hur., '95.
- King, C. A., schr., 394 t., damaged, '69.
- King, C. G., schr., 457 g. t., b. '70, Saginaw, in com.
- King, Eurette, Can. scow, 142 g. t., b. '87, Welland, in com.
- King, F. J., schr., 266 t., b. Toledo, '67, sunk L. Mich., '86.
- King, Fred, tug, 13 g. t., b. '89, Erie, in com.
- King, George, prop., 532 g. t., b. '74, Marine City, in com.
- King, James C., schr., 512 g. t., b. '67, Saginaw, in com.
- King, James G., schr., 170 t., b. Dunkirk, '36.
- King, Jennie, tug, 13 g. t., b. '82, St. Joseph, in com.
- King, Jennie P., bark, b. Tonawanda, '63, wrecked Long Point, '66, 14 lives lost.
- King, J. G., schr., wrecked Kalamazoo r., '56.
- King, J. G., schr., 154 t., b. Dunkirk, '36, wrecked off Conneaut, '43.
- King, Maggie R., Can. tug, 49 n. t., b. '72, Port Robinson, in com.
- King, R. B., schr., 82 t., sunk Muskegon, '85.
- King, R. S., Can. tug, now the Adam Ainslie.
- King, R. S., Can. prop., 58 g. t., b. '82, Port Robinson, in com.
- King Sisters, schr., 400 t., b. Toledo, '62, wrecked L. Erie, '84.
- Kingbird, schr., ashore L. Erie, '19.
- Kingsfisher, schr., 517 g. t., b. '67, Cleveland, in com.
- Kingsfisher, Can. schr., 107 g. t., b. '92, Shelburn, in com.
- Kingsfisher, Can. prop., 24 n. t., b. '86, Port Burwell, burned, '96.
- Kinghorn, Can. bge., 300 n. t., b. '71, Montreal, in com.
- Kingman, M., schr., capsized Detroit r., '38.
- Kingsbury, G. P., tug, 29 g. t., b. '74, Muskegon, passed out, '91.
- Kingsford, schr., b. Oswego, '56, sunk L. Mich., '71.
- Kingsford, Thompson, prop., 185 g. t., later the John H. Pauly.
- Kingsford, Thos., prop., sunk Belleville, Ont., by col., '82.
- Kingston, Can. schr., armed cruiser, b. Kingston, '16, withdrawn, '18.
- Kingston, Can. stmr., b. Kingston, '33, wrecked, '47.
- Kingston, Can. schr., 246 g. t., b. '16, Sacket's Harbor.
- Kingston, Can. stmr., 400 t., in com., '56.
- Kingston, stmr., wrecked St. Lawrence r., '48.
- Kingston, Can. stmr., b. '55, Montreal, burned, rebuilt as Bavarian, burned at Whitby, rebuilt, and now Algerian.
- Kingston Packet, Can. schr., 70 g. t., b. '15, Kingston, wrecked.
- Kinne, H. M., schr., 111 t., b. Conneaut, '41.
- Kinzie, John, brig, b. '33.
- Kirby, Frank E., s. stmr., 532 g. t., b. '90, Wyandotte, in com.

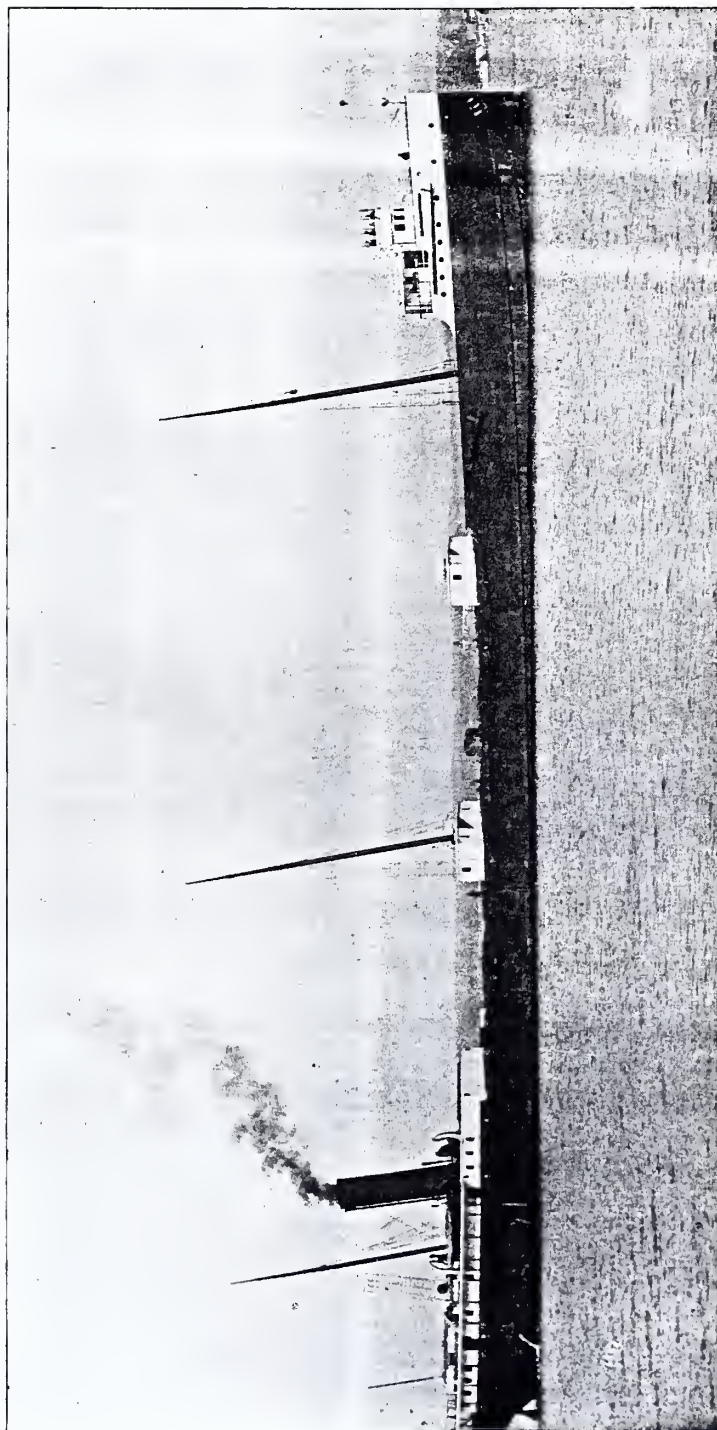


- Kirby, S. R., prop., 2,338 g. t., b. '90, Wyandotte, in com.
- Kirk, Wm. B., stcb., 79 g. t., b. '87, Baldswinville, N. Y., passed out, '96.
- Kitchen, J. B., schr., 287 g. t., b. '73, Cleveland, in com.
- Kitty, scow, wrecked L. Erie, '70.
- Knapp, Captain, U. S. rev. cut., afloat, '26.
- Knapp, F. M., schr., 384 g. t., b. '67, Ferrysburg, Mich., in com.
- Knapp, Gilbert, schr., 186 g. t., b. '54, Racine, wrecked L. Mich., '96.
- Knapp, L. W., tug, 17 g. t., b. '95, Richmond, O., in com.
- Knapp, M. A., tug, 60 g. t., b. '93, Benton Harbor, in com.
- Knapp, M. A., 18 g. t., b. '80, Manitowoc, in com.
- Knapp, Robbie, schr., 15 g. t., b. '72, Bailey's Harbor, in com.
- Knapp's roller boat, b. Toronto, '97.
- Knickerbocker, schr., b. before '43, lost L. Mich., '55.
- Knight, Joe, Can. prop., 14 g. t., b. '70, St. Catharines, in com.
- Knight Templar, tug, 38 g. t., b. '90, Milwaukee, in com.
- Knight Templar, schr., 289 g. t., b. '65, Oswego, in com.
- Knight, Thomas, schr., 20 g. t., b. '87, Port Clinton, O., in com.
- Knoblock, Lena, prop., 87 g. t., b. '81, Buffalo, in com.
- Koal Kabin, bge., 567 g. t., b. '82, in com.
- Koefer, schr., wrecked Erie, '55.
- Koehn, Frederick, tug, 40 g. t., b. '86, Milwaukee, in com.
- Kolfage, J. G., Can. schr., 109 n. t., b. '69, Port Burwell, in com.
- Kolista, stmr., 9 g. t., b. '92, in com.
- Kosciusko, schr., b. Ohio City, '47, passed out.
- Kossuth, schr., wrecked near Chicago, '57.
- Kossuth, tug, wrecked Grand Haven, '58.
- Koven, Edith H., schr., 38 g. t., b. '90, Wash. Harbor, Wis., in com.
- Kremer, C. F., tug, 12 g. t., b. '79, Chicago, passed out, '92.
- Krupp, Alfred, s. schr., 3,259 g. t., b. '96, Chicago, in com.
- Kunkle Bros., tug, 55 g. t., b. '90, Ashtabula, in com.
- Kunz, Dan, prop., 99 g. t., b. '88, Sandusky, in com.
- LaBelle, Can. prop., 69 n. t., b. Belle river, in com.
- LaCanadienne, Can. prop., 372 g. t., b. '80, Glasgow, in com.
- LaChapelle, W. 6 t., b. Detroit, '80.
- Lac La Belle, prop., 850 t., b. Cleveland, '64, sunk St. Clair flats, '66, two lives lost, raised, '69, foundered L. Mich., '72, 8 lives lost.
- Lackawanna, Can. schr., 154 g. t., b. '84, Champlain, in com.
- Lackawanna, s. prop., 2,015 g. t., b. '88, Cleveland, in com.
- LaCrosse, prop., 384 t., b. Buffalo, '57, left lakes for Galveston, '61.
- Lactraguence, English vessel on L. Ont., 1760.
- La Cultivateur, Can. stmr., now the Ile Heron.
- Ladas, Can. prop., 54 g. t., b. '94, Cache Bay, in com.
- Lady, schr., lost Grand Haven, '53.
- Lady Bagot, Can. schr., 111 t., b. St. Catharine's, '42, total loss Grand river, '52.
- Lady Charlotte, English vessel, b. 1771.
- Lady Colborne, Can. schr., ashore York bay, '31.
- Lady Dorchester, English v. on L. Ont. in 1793.
- Lady Dufferin, Can. schr., 380 t., sunk Georgian Bay, '86.
- Lady Dufferin, Can. stmr., passed out.
- Lady Elgin, Can. stmr., 200 t., in com., '56.
- Lady Elgin, stmr., b. Buffalo, '51, lost by col. L. Mich., '60, 287 lives lost.
- Lady Elgin, schr., capsized L. Ont., '82, 3 lives lost.
- Lady Ellen, schr., 44 g. t., b. '75, Ahnapsee, in com.
- Lady Essex, Ban. v., 53 t., b. '69.
- Lady Franklin, prop., 359 t., b. Chicago, '61, burned Amherstburg, '76, wrecked '95.
- Lady Gore, Brit. schr., 94 t., capsized by U. S., L. Ont., '13.
- Lady Hillier, Can. schr., in com., '31.
- Lady Ida, Can. prop., 28 g. t., b. '78, Lindsay, in com.
- Lady Jane, schr., wrecked L. Mich., '63.
- Lady Jane, prop., 21 g. t., b. '95, Charlevoix, in com.
- Lady May, fer. boat, burned Sault, '89.
- Lady May, sty., 37 g. t., b. '79, Cadillac, passed out, '93.
- Lady McDonald, schr., 333 t., b. '73.
- Lady Moulton, schr., sunk L. Ont., by col., '69.
- Lady Murray, Brit. schr., captured '12, L. Ont., recaptured '12 by Royal George.
- Lady of the Lake, schr., lost L. Mich., '62.
- Lady of the Lake, slp., 8 t., b. Detroit, '43.
- Lady of the Lake, stmr., b. Mt. Clemens, '33, broken up.
- Lady of the Lake, Can. schr., 450 g. t., b. '51, Niagara, burned.
- Lady of the Lake, prop., 320 t., b. Cleveland '46, wrecked by explosion L. Erie, '50, 2 lives lost.
- Lady of the Lake, U. S. armed v. on L. Ont., b. Cleveland, '14, foundered L. Erie '34, several lives lost.
- Lady of the Lake, Can. prop., 10 g. t., b. '86, Bala, in com.
- Lady of the Lake, schr., went to pieces nr. Buffalo, '38.
- Lady of the Lake, stmr., b. Conneaut, '34, Detroit ferry boat.
- Lady of the Lake, stmr., 423 t., b. Oswego, '42, burned Toronto, '55.
- Lady of the Lake, Can. stmr., 450 t., b. Niagara, '51.
- Lady Prevost, Can. armed schr., 97 t., 13 guns, b. '10, Amherstburg, captured in battle Lake Erie, sailed many years later.
- Lady Robbins, ashore Little Sodus.
- Lady Rupert, Can. stmr., passed out.
- Lady Sarah, Can. schr., 100 g. t., b. '19, York.
- Lady Sarah Maitland, Can. schr., afloat in '20.
- Lady Simpson, Can. stmr., b. Montreal, broken up.
- Lady Standley, Can. slp., 17 g. t., b. '72, Cobourg, in com.
- Lady Washington, schr., wrecked Sturgeon Point, '28.
- Lady Washington, prop., 47 t., foundered L. Mich., '90.
- Lady Washington, Can. schr., b. 1797, Four Mile Creek, wrecked.
- Lady Wimett, stcb., 141 g. t., b. '87, Lockport, in com.
- Lady Young, brig, lost Sable island.
- Lafayette, schr., b. Cape Vincent, before '53.
- Lafayette, prop., 31 g. t., b. '83, Toledo, passed out, '92.
- Lafayette Packet, wrecked Put-in-Bay, '30.
- Laffell, W. L., Can. prop., 238 g. t., b. '93, Port Hope, in com.
- Lafrimer, schr., 514 t., b. Cleveland, '62, wrecked Hog island, '86.
- Lagonda, s. prop., 3,947 g. t., b. '96, West Bay City, in com.
- La Grange, schr., sunk at Point Pelee, '47.
- Lagrange, schr., lost near Point Pelee, '35.
- La Huzalt, French vessel, captured Fort Frontenac, by Col. Bradstreet, 1758.
- Lake, Can. tug, 249 n. t., b. '75, Philadelphia, in com.



- Lake, Annie, Can. prop., 17 n. t. b. '94, Belleville, in com.  
 Lake Breeze, prop., 196 t., b. Toledo, '68.  
 Lake City, scow, sunk Detroit r., '65.  
 Lake Erie, stmr., 149 t., b. Detroit, '36.  
 Lake Erie, Can. prop., 375 g. t., b. '72, Port Dalhousie, lost L. Mich., '82, burned, '90.  
 Lake Forest, schr., 332 g. t., b. '69, Little Sturgeon, in com.  
 Lake Joseph, Can. prop., 28 g. t., b. '80, Gravenhurst, in com.  
 Lake Michigan, Can. prop., 372 n. t., b. '72, St. Catharines, in com.  
 Lake Ontario, Can. prop., 675 g. t., b. '72, St. Catharines, in com.  
 Lake Ontario, Can. stmr., 375 g. t., b. Port Dalhousie, '72, burned Clayton, '90.  
 Lake Serpent, schr., 40 t., b. Cleveland, '26.  
 Lakeside, Can. prop., 267 n. t., b. '88, Windsor, in com.  
 Laketon, stmr., 147 t., b. '68, wrecked L. Sup., '87.  
 Laketon, prop., 74 g. t., b. '66, Ferrysburg, Mich., passed out, '93.  
 Lalla Rookh, schr., 60 g. t., b. '81, Manitowoc, in com.  
 La Louise, French vessel, captured Fort Frontenac, by Col. Bradstreet, 1758.  
 La Marquise de Vaudreuil, French vessel, captured Fort Frontenac, by Col. Bradstreet, 1758.  
 Lamars, H. H., schr., capsized off Fairport, '81.  
 Lamb, C. H., prop., 16 g. t., b. '91, Buffalo, in com.  
 Lamb, L. L., schr., 253 g. t., b. '69, Erie, in com.  
 Lambert, R. T., schr., 23 g. t., b. '73, Bay Port, in com.  
 Lamde, Mary A., schr., 79 t., b. Detroit, passed out.  
 Lamper, Nellie, schr., 327 g. t., b. '73, in com.  
 Lamplighter, U. S. schr., totally wrecked L. Sup., '57.  
 Lancashire, schr., b. Buffalo, '56.  
 Lancaster, Can. bge., 270 n. t., b. '72, Lancaster, in com.  
 Lancel, sty., 35 g. t., later the Calumet.  
 Lander, scow, in com., '77, passed out.  
 Lang, John, stcb., 107 g. t., b. '75, Watkins, N. Y., in com.  
 Langdon, James R., prop., 2,044 g. t., b. '89, Detroit, in com.  
 Langell Boys, prop., 387 g. t., b. '90, St. Clair, in com.  
 Langell, Simon, prop., 945 g. t., b. '86, St. Clair, in com.  
 Langmuir, J. W., schr., 116 t., b. Picton, '65.  
 Lansdowne, Can. prop., 680 g. t., b. '84, Maccan Bay, in com.  
 Lansdowne, Can. stmr., 1,520 n. t., b. '84, Detroit, in com.  
 Lansing, schr., b. Buffalo, '52.  
 Lansing, prop., 1,611 g. t., b. '87, Trenton, in com.  
 Lansing, H. L., schr., 364 t., wrecked near Chicago, '65.  
 La Petite, schr., 172 g. t., b. '66, Huron, in com.  
 La Porte, schr., 150 t., b. Buffalo, '35.  
 Laprairie, Can. stmr., 443 n. t., b. '67, Montreal, in com.  
 Lapwing, Can. bge., 620 n. t., b. '92, Garden Island, in com.  
 Larbrecht, Louis, sty., 26 g. t., b. '86, Buffalo, passed out, '95.  
 Lark, schr., 18 t., on L. Ont. before 1809.  
 Lark, schr., lost L. Mich., '57.  
 Larkin, Harry, bge., 79 g. t., b. '94, in com.  
 Larkin, Hubert, Can. tug, 48 n. t., b. '82, Point Levis, in com.  
 Larned, Mary Ann, schr., in com., '51, passed out.  
 Larned, L. C., Can. schr., 43 g. t., b. '75, Port Huron, in com.  
 Larosee, H., Can. tug, 31 n. t., b. '95, Sorel, in com.  
 Larson, Julia, schr., 59 g. t., b. '74, Manitowoc, in com.  
 La Salle, s. prop., 1,921 g. t., b. '90, Cleveland, in com.  
 La Salle, schr., 168 t., in com., '37, capsized near Racine, '49.  
 Laster, T. G., bge., b. Cass River, '68.  
 Latham, Lucy J., schr., in com., '58.  
 Latham, John, tug, 75 g. t., b. '78, Sturgeon Bay, in com.  
 Lathrop, bge., sunk by col., Detroit r., '78.  
 Lathrop, John, prop., in com., '52.  
 Lathrop, S. H., schr., 278 g. t., b. '56, Buffalo, in com.  
 Laughlin, Mary A., Can. prop., 23 g. t., b. '71, Buffalo, in com.  
 Laura, schr., 31 g. t., b. '81, Fort Howard, passed out, '97.  
 Laura, schr., sunk near Oswego, '76.  
 Laura, prop., 22 g. t., b. '89, West Bay City, later the Waneka.  
 Laura Belle, schr., b. Toledo, '70, wrecked Marquette, '83.  
 Laura D., Can. slp., 48 n. t., b. '84, Kingston, in com.  
 Laura D., prop., 135 g. t., b. '91, Toledo, in com.  
 Laura, Emma, schr., in com., '76.  
 Laura M., Can. tug, 16 n. t., b. '94, Meaford, in com.  
 Laurel, sty., 18 g. t., formerly Val Walter, b. '90, Buffalo, in com.  
 Laurel, schr., 62 g. t., b. '52, Blasten Bend, O., passed out, '92.  
 Laurie, Annie, prop., 244 g. t., b. '71, Marine City, in com.  
 Laurie, Annie, prop., 61 g. t., b. '74, Buffalo, burned at Sault, '93.  
 Laurie, Belle, schr., 36 g. t., b. '76, Sturgeon Bay, lost, '94, L. Mich.  
 Laurie, Kittie, schr., 13 g. t., b. '72, Green Bay, passed out, '94.  
 Laurier, Can. prop., 20 n. t., b. '93, Sorel, in com.  
 Laurina, schr., 55 g. t., b. '72, Chicago, lost '93, L. Mich.  
 Lauvina, schr., 45 t., b. Chicago, '70.  
 Lavantia, schr., lost L. Ont., '20.  
 Lavendure, E. G., Can. fry., 50 n. t., b. '89, Ottawa, in com.  
 Lavina, schr., 200 t., b. Ohio City, '47, wrecked near Kenosha, '52.  
 Lavinda, schr., 125 g. t., b. '63, Allegan, in com.  
 Lavinia, schr., wrecked Port Washington, '58.  
 Law, Lizzie A., schr., 747 g. t., b. '75, Port Huron, sunk by col. Point Pelee, '93.  
 Lawrence, com. Perry's flag ship, brig, 480 t., 20 guns, b. Erie, '13, in battle Lake Erie, sunk in Misery bay, Erie, raised many years later.  
 Lawrence, stmr., 300 t., b. Fairport, '38.  
 Lawrence, prop., 447 g. t., b. '68, Cleveland, in com.  
 Lawrence, tug, lost, '88.  
 Lawrence, Commodore, schr., in com., '33, sunk, '50.  
 Lawrence, Fred M., stcb., 124 g. t., b. '93, Buffalo, in com.  
 Lawrence, H. C., sch., 10 g. t., b. '78, Bay City, passed out, '97.  
 Lawrence, Josephine, schr., sunk Detroit r., '54.  
 Lawrence, Tom, schr., 48 t., passed out.  
 Lawson, Iver, schr., 149 g. t., b. '69, Chicago, in com.  
 Lawton, A. P., scow, 66 g. t., b. '91, Detroit, in com.  
 Lay, C., sch., passed out.  
 Leader, schr., 247 g. t., b. '56, Black River, O., in com.  
 Leader, schr., 32 g. t., b. '92, Algonac, in com.  
 Leadville, schr., 343 t., b. '79, wrecked Long Point, '83.  
 Leander, schr., 130 t., b. Peninsula, '38, lost in Straits, '57.  
 Leathem, Ivy M., tug, 25 g. t., b. '91, Manitowoc, later the Violet H. Raber.  
 Lee, Charles, tug, 17 g. t., b. '76, East Saginaw, in com.  
 Lee, Fred A., tug, 60 g. t., b. '96, Port Huron, in com.

- Lee, Hattie, schr., 101 g. t., b. '66, South Haven, passed out, '95.
- Lee, J. M., schr., lost L. Erie, '66.
- Lee, John, Sr., Can. tug., 84 n. t., b. '88, Wallaceburg, in com., formerly tug T. Keddele.
- Lee, John, Can. prop., 52 g. t., b. '93, Wallaceburg, in com.
- Lee, Oliver, bark, wrecked Straits, '57, formerly stmr. London.
- Lee, R. Porter, tug, 13 g. t., b. '81, Buffalo, in com.
- Leeson, Margt. J., Can. bge., 159 n. t., b. '79, Thorold, in com.
- Legal, schr., 15 g. t., b. '90, Ludington, in com.
- Lehigh, s. prop., 1,704 g. t., b. '80, Buffalo, in com.
- Lehigh, C. B., stcb., 133 g. t., b. '81, Rochester, in com.
- Leighton, Frank C., schr., 328 g. t., b. '75, Port Huron, in com.
- Leighton, James, Can. prop., 23 g. t., b. '75, Moore, in com.
- Leland, prop., 366 g. t., b. '73, New Jerusalem, O., in com.
- Leland, prop., 375 t., burned Huron, '88.
- Leland, schr., 213 t., b. Ohio City, '47.
- Lelia, sty., 48 g. t., later the Argo.
- Lemen, Tom., schr., 90 t., b. Cleveland, '37.
- Lena L., slp., 10 g. t., b. '96, Three Mile Bay, in com.
- Lennox, Leo, tug, 15 g. t., b. '71, Buffalo, formerly Newsboy, in com.
- Lenore, Can. prop., 6 g. t., b. '67, Cobourg, in com.
- Leo, tug, 34 g. t., b. '86, Chicago, wrecked Milwaukee, '98.
- Leo, schr., 24 g. t., b. '86, Menekaune, Wis., passed out, '94.
- Leo, sty., boiler exploded near Cleveland, '89, 8 lives lost.
- Leo, scow, capsized, L. Erie, '55.
- Leon, Can. prop., 15 g. t., b. '93, High Falls, in com.
- Leona, tug, 13 g. t., b. '89, Tonawanda, in com.
- Leonard, Mary Ann, schr., b. Racine, ashore L. Mich., '50, passed out.
- Leopard, schr., 18 t., passed out.
- Leroy, Hattie, schr., 9 g. t., b. '92, McDonald, Mich., in com.
- Leroy, H. C., tug, 79 g. t., b. '92, Sodus Point, in com.
- Leroy, V., schr., b. Cape Vincent, before '53.
- Leslie, schr., stranded near Oak Orchard, '69.
- Leslie tug, 38 g. t., b. '94, South Haven, in com.
- Lester, Florence, schr., 265 t., b. Marine City, '68, lost '89, L. Mich.
- Lester, T. G., schr., 257 g. t., b. '68, Saginaw, in com.
- Leuty, D., prop., 646 g. t., b. '82, Lorain, in com.
- Levant, schr., wrecked off Sheboygan, '71.
- Leviathan, schr., 130 t., b. Port Burwell, '68, wrecked Port Burwell, '70.
- Leviathan, tug, 232 g. t., b. '57, Buffalo, burned Cheboygan, '91.
- L. E. Victort, French vessel captured at Fort Frontenac by Col. Bradstreet, 1758.
- Levis, Can. prop., 144 n. t., b. '83, Levis, in com.
- Levy, E. L., i. prop., 142 g. t., b. '88, Philadelphia, in com.
- Lewie, schr., 11 g. t., b. '84, Duluth, in com.
- Lewis, Samuel, 102 t., b. Detroit, '61.
- Lewis, Sam, tug, lost, '71.
- Lewis, W. H., Can. schr., 156 g. t., b. '78, Ottawa, in com.
- Lewiston, c. prop., 1,808 g. t., formerly Susan E. Peck, b. '86, Wyandotte, in com.
- Lexington, stmr., 363 t., b. Black River, O., '38, condemned.
- Lexington, scow, ashore L. Erie, '45.
- Lexington, schr., foundered with all hands, L. Erie, '46.
- Lexington, stmr., 353 t., b. Buffalo, '47, sunk L. Erie by collision, '50.
- Lia, Can. slp., 30 g. t., b. '88, Kingston, in com.
- Liberty prop., 143 g. t., b. '89, Fort Howard, in com.
- Liberty, schr., 24 t., b. Two Mile Creek, Buffalo, wrecked Milwaukee, '72.
- Liberty, stmr., burned Green Bay, '89.
- Liberty, tug, 31 g. t., b. '89, Sturgeon Bay, in com.
- Liberty, tug, 22 g. t., b. '92, Chicago, in com.
- Lida, tug, 13 g. t., b. '74 Buffalo, later the Cupid.
- Lieudin, Minnie, Can. bge., 64 g. t., b. '78, Seeley's Bay, in com.
- Light Guard, schr., 310 g. t., b. '66, Detroit, in com.
- Liken, Chas. W., tug, 37 g. t., b. '80, West Bay City, in com.
- Liken, John C., prop., 59 t., sunk L. Hur., '90.
- Lilley, Maud, tug, 13 g. t., b. '80, Spring Lake, Mich., in com.
- Lillian, Can. schr., 19 g. t., b. '59, Henderson, in com.
- Lillian, Can. prop., 5 g. t., b. '93, Owen Sound, in com.
- Lillian, sty., 9 g. t., b. '93, Buffalo, in com.
- Lillie, Can. schr., sailed Kingston to Liverpool, '48.
- Lillie, Can. scow, 46 g. t., b. '84, Pipe Creek, in com.
- Lillie, Can. prop., 42 n. t., b. '84, Hamilton, in com.
- Lillie, sty., 31 g. t., b. '72, Brooklyn, in com.
- Lillie, Can. tug, 20 n. t., b. '90, Oakville, in com., formerly Victoria.
- Lillie, A., prop., 11 g. t., b. '91, Bay City, in com.
- Lillie, May, Can. tug, 11 n. t., b. '94, North River, in com.
- Lilly, schr., sailed from L. Ont., '59, blown up with cargo powder on coast of Ireland, '59.
- Lilly E., schr., 191 g. t., formerly Louisa McDonald, b. '69, Manitowoc, in com.
- Lillie, John, scow, 100 t., b. Chicago, 47, wrecked Grand Haven, '70.
- Lily, prop., 104 g. t., b. '89, Mt. Clemens, in com.
- Lily, scow, lost L. Erie, Vermilion, '62, and 1 life lost.
- Lily, Can. prop., 38 g. t., b. '65, St. Catharines, in com.
- Lily, Can. tug, 15 n. t., b. '73, Kingston, in com.
- Lime Rock, scow, in com., '61, passed out.
- Lincoln, Can. stmr., 375 t., b. '72, wrecked Georgian Bay, '87.
- Lincoln, Can. scow, 142 g. t., b. '76, Merritton, in com.
- Lincoln, Abraham, schr., b. Grand Rapids, '61, passed out.
- Lincoln, Isaac, stmr., b. '98, Marine City, in com.
- Lind, Jennie, Can. schr., 28 g. t., b. '66, Port Credit, in com.
- Lind, Jennie, schr., b. Gibraltar, '74.
- Lind, Jenny, Can. schr., 350 t., b. Montreal, '55.
- Lind, Jenny, schr., 110 t., b. '48, wrecked near Chicago, '83, 4 lives lost.
- Lind, Jenny, schr., wrecked Long Point, '64.
- Linden, prop., 894 g. t., b. '95, Port Huron, in com.
- Lindrup, tug, 42 g. t., b. '91, Manistee, in com.
- Lindsay, A. G., prop., 1,354 g. t., b. '89, Detroit, chartered ocean service, '98.
- Linerla, schr., 77 g. t., b. '84, Manitowoc, in com.
- Linn, Cora, Can. stmr., 150 t., in com., '56.
- Linn, Jesse, schr., 842 g. t., later the Massasoit.
- Linn, William R., s. prop., 4,000 g. t., b. '98, South Chicago, in com.
- Lion, tug, 457 t., b. Detroit, '55, condemned, '63.
- Lisgar, Can. bge., 384 n. t., b. '72, Port Robinson, in com.
- Lithophone, Can. schr., 14 g. t., b. '81, Bronte, in com.
- Little Albert, schr., sunk L. Ont., '68.
- Little Albert, prop., 18 g. t., b. '88, Tonawanda, in com.



STEEL STEAMER PENOBSBOT.





- Little Bell, schr., ashore, '72.  
 Little Belt, Brit. slp., 90 t., 3 guns, captured in battle L. Erie, originally Friends Good Will, burned by British at Buffalo, '13.  
 Little Eastern, 32 t., b. Detroit, '59.  
 Little Erie, stmr., 149 t., b. Detroit, '36, sunk L. St. Clair, '43.  
 Little Eva, stmr., 20 t., b. Buffalo, '54.  
 Little Frank, sty., 11 g. t., b. '83, Buffalo, passed out, '93.  
 Little George, schr., 55 t., b. Sheboygan, '70, burned off Milwaukee, '82.  
 Little Giant, tug, 24 t., later the Uncle Sam, bought by U. S. Gov., '63, for Mississippi river service.  
 Little Gregory, schr., 52 g. t., b. '70, Sheboygan, in com.  
 Little Jake, schr., 364 g. t., b. '75, Saginaw, in com.  
 Little Kate, Can. schr., passed out.  
 Little Mac, sty., 25 g. t., b. '86, Buffalo, in com.  
 Little Nell, stmr., exploded Saginaw City, '62.  
 Little Nellie, prop., 15 g. t., b. '75, Brooklyn, in com.  
 Little Rebel, tug, boiler exploded, '71.  
 Little Western, stmr., 60 t., b. '34, burned '42, Detroit.  
 Little Willie, schr., 27 t., foundered L. Mich., '85.  
 Little Wissahicken, schr., 376 g. t., formerly Edward Keane, b. '69, Marine City, foundered L. Erie, '96, 3 lives lost.  
 Little Wolf, bark, ashore Kelley's island, '71.  
 Live Oak, schr., 46 t., b. Wilson, '70.  
 Live Oak, schr., 165 g. t., b. '50, Huron, passed out, '95.  
 Live Yankee, schr., 260 t., b. Milan, '54, wrecked L. Mich., '69.  
 Lively, English vessel on L. Ont. in 1760.  
 Lively, schr., ashore Sand Beach, '78.  
 Liverpool, schr., 126 t., lost Grand Haven, '55.  
 Livingston, s. prop., 2,134 g. t., b. '89, Wyandotte, in com.  
 Livingston, Wm. J., prop., foundered Sturgeon bay, '80.  
 Livonia, slp., 17 t., passed out.  
 Lizzie, Can. prop., now the Dortha.  
 Lizzie, stmr., sunk Muskegon Lake, '69.  
 Lizzie, sty., 25 g. t., b. '77, Buffalo, in com.  
 Lizzie, prop., 13 g. t., b. '88, Toledo, in com.  
 Lizzie, Can. prop., 51 g. t., b. '94, Hamilton, in com.  
 Lizzie H., prop., 15 g. t., formerly R. H. Southgate, b. '88, Alexandria Bay, in com.  
 Lizzie May, stmr., capsized, '69.  
 Lloyd, Hattie, tug, 34 g. t., b. '83, Duluth, in com.  
 Loadstone, schr., 32 g. t., b. '67, Monguagon, Mich., in com.  
 Lochiel, schr., 223 t., foundered L. Ont., '65.  
 Lock, Cora, stmr., 68 t., b. Toledo, '67.  
 Locke, P. B., schr., 285 g. t., b. '72, Toledo, in com.  
 Lockwood, C. B., prop., 2,139 g. t., b. '90, Cleveland, in com.  
 Lockwood, James C., prop., 2,278 g. t., b. '89, Cleveland, in com.  
 Lodi, schr., 50 t., b. '36, sunk, '42, sunk off Grand Haven, '55.  
 Loe, schr., 94 g. t., b. '66, Sheboygan, in com.  
 Logan, Eliza, schr., damaged by col., '61.  
 Logie, Jessie P., tug, 12 g. t., later the M. I. Wilcox, Sr.  
 Logie, Jessie P., tug, 12 g. t., b. '80, Buffalo, passed out, '96.  
 Logie, John, Can. tug, 40 n. t., b. '93, Goderich, in com.  
 Logie, W. F., Can. tug, 30 n. t., b. '81, Buffalo, in com.  
 Loma, sty., 9 g. t., b. '96, in com.  
 Lombard, schr., ashore Three Rivers, '80.  
 London, Can. schr., 150 g. t., b. '43, Cobourg, lost L. Ont., '58.  
 London, stmr., 456 t., b. Chippewa, '45, made into bark Oliver Lee, wrecked, '57.  
 Lone Star, schr., 21 g. t., b. '81, Mud Creek, O., passed out, '92.  
 Lone Star, tug, 10 g. t., b. '76, Cayuga, N.Y., in com.  
 Lone Star, schr., 278 g. t., b. '57, Buffalo, in com.  
 Lone Star, Can. schr., 32 g. t., b. '68, Port Credit, in com.  
 Lone Star, scow, total wreck near Conneaut, '66.  
 Long, Ann, Can. prop., 72 n. t., b. '81, Collingwood, in com.  
 Long, J. J., Can. prop., 169 n. t., b. '94, Collingwood, in com.  
 Long, Tom, schr., ashore Fairport, '66.  
 Longford, Can. prop., 53 g. t., b. '87, Orillia, in com.  
 Longhrine, John, Can. prop., 56 g. t., b. '89, Keppewa Lake, in com.  
 Longueil, Can. stmr., 410 n. t., b. '84, Montreal, in com.  
 Loomis, Luther, tug, 29 g. t., b. '89, Chicago, in com.  
 Lookout, schr., 226 g. t., b. '55, Buffalo, wrecked Two Rivers, '97.  
 Loon, 21 t., b. Detroit, '64.  
 Lora, prop., 616 g. t., b. '82, Benton Harbor, renamed Alice Stafford.  
 Lorain, sloop, b. '34, Black River, O.  
 Lorain L., prop., 190 g. t., b. '91, South Haven, in com.  
 Loraine, sty., 26 g. t., b. '78, Buffalo, passed out, '93.  
 Loraine, Can. prop., 23 g. t., b. '78, Buffalo, in com.  
 Lord Elgin, prop., totally wrecked Long Point, '56.  
 Lord Elgin, Can. schr., b. Montreal, wrecked.  
 Lord Jarvis, prop., 641 t., sunk L. Mich., '85.  
 Lord Nelson, Can. schr., 110 t., b. Niagara, '11, captured L. Ont., by brig Oneida, '12, armed by U. S. and named Scourge.  
 Lord Nelson, schr., ashore Port Granby, '68.  
 Lord Sydenham, Can. stmr., ran down St. Lawrence rapids, '39, sunk by col. L. St. Peter, '43.  
 Lord Wellington, Can. brig, wrecked Point Albino, '18.  
 Lorelei, Can. prop., 44 g. t., b. '91, Kingston, in com.  
 Lorelei, sty., 38 g. t., b. '70, Buffalo, passed out, '97.  
 Lorelie, Can. prop., now the Can. prop. Valeria.  
 Loretta, sty., 9 g. t., b. '95, Buffalo, in com.  
 Loretta, schr., 328 g. t., b. '92, West Bay City, passed out '93.  
 Loretta, prop., 394 g. t., b. '92, Sebewaing, Mich., burned Lorain, '96.  
 Lorimer, Geo. W., tug, now the Mary Virginia.  
 Loring, scow, lost '71.  
 Lorman, C. A., tug, 41 g. t., b. '93, Detroit, in com.  
 Lorman, C. A., bge., 137 g. t., b. '78, in com.  
 Lorna Doon, Can. prop., 5 g. t., b. '93, Orillia, in com.  
 Lorraine, Can. slp., 74 g. t., b. '82, Kingston, in com.  
 Lothair, Can. bge., 386 n. t., b. '72, St. Catharines, in com., formerly prop.  
 Lothaire, Can. prop., 413 g. t., b. '74, St. Catharines, in com.  
 Lottie, Can. prop., 10 g. t., b. '85, Aylmer, in com.  
 Lottie Maud, Can. tug, 23 n. t., b. '86, Port Burwell, in com.  
 Lotus, schr., 270 g. t., b. '67, Depere, in com.  
 Lotus, prop., 65 g. t., b. '74, Detroit, passed out, '97.  
 Lotus, sty., 52 g. t., b. '87, Ogdensburg, in com.  
 Lotus, prop., 219 g. t., b. '93, Manitowoc, in com.  
 Loughlin, Mary A., Can. tug, 38 n. t., b. '71, Buffalo, in com.  
 Louisa, scow, 34 t., b. '47.  
 Louisa, schr., wrecked L. Ont., '66.  
 Louisa, Can. schr., 30 g. t., b. '66, Swan Creek, in com.  
 Louisa, schr., 192 t., b. Detroit, '68.  
 Louisa, schr., 39 g. t., b. '74, Bangor, in com.  
 Louisa, Can. prop., 6 g. t., b. '75, Port Dalhousie, in com.

- Louisa, tug, 18 g. t., b. '91, Lorain, in com.  
 Louisa, schr., wrecked Marquette reef, '90.  
 Louise, tug, 15 g. t., b. '73, Buffalo, in com.  
 Louise, prop., 83 g. t., b. '78, Sandusky, in com.  
 Louise, sty., 35 g. t., b. '84, Detroit, in com.  
 Louise, sty., 49 g. t., b. '93, Bristol, R. I., in com.  
 Louise M., tug, 19 g. t., b. '92, Sheboygan, in com.  
 Louisiana, stmr., 900 t., b. Buffalo, '46, wrecked Port Burwell, '57.  
 Louisiana, prop., 1,753 g. t., b. '78, Marine City, in com.  
 Louisville, prop., 366 t., b. Buffalo, '53, burned St. Lawrence r., '56.  
 Louisville, prop., burned off Chicago, '57, 1 life lost.  
 Loutit, Willie, schr., 181 g. t., b. '73, Eastmanville, Mich., in com.  
 Love, Andy, schr., passed out.  
 Love, Maria, tug, b. '63, later Clematis.  
 Lovering, H. L., Can. prop., 55, g. t., b. '83, Port Severn, in com.  
 Lowell, brig, damaged L. Mich., '52, lost, '71.  
 Lowell, prop., 344 g. t., b. '65, Cleveland, burned Port Huron, '93.  
 Lowland Lass, schr. sunk L. Erie by col., '52.  
 Lowrie, Mary, stmr., in com., '89.  
 Lozen, J. B., schr., 565 g. t., b. '90, Mt. Clemens, in com.  
 Lozen, Lucinda, schr., 85 g. t., b. '69, New Baltimore, Mich., in com.  
 Lucerne, schr., 692 t., sunk L. Sup., '86.  
 Lucerne, schr., wrecked near Chequamegon Point, '86, 10 lives lost.  
 Lucille, sty., 21 g. t., b. '88, Detroit, in com.  
 Lucille, prop., 136 g. t., b. '83, Marine City, in com.  
 Lucille, prop., 137 g. t., formerly Pickup.  
 Lucinda, schr., 27 g. t., b. '88, Sand Beach, in com.  
 Luckey, A. W., schr., 311 g. t., b. '67, Oak Harbor, O., in com.  
 Lucky Lena, sty., 36 g. t., b. '76, Syracuse, passed out, '97.  
 Lucy, schr., passed out.  
 Ludington, Harrison, sty., 47 g. t., b. '90, Manitowoc, in com.  
 Ludington, Lewis, schr., 157 g. t., b. '54, Sheboygan, passed out, '95.  
 Ludwig, Mary, schr., 68 g. t., b. '74, South Haven, in com.  
 Luella, Can. prop., 39 n. t., b. '79, Toronto, in com.  
 Luff, Sophia J., schr., 277 g. t., b. '66, Marine City, in com.  
 Luling, Charles, schr., 195 g. t., '73, Manitowoc, in com.  
 Lulla, Beatrice, Can. schr., 82 n. t., b. '96, Port Burwell, in com.  
 Lulu, schr., in com., '55.  
 Lumberman, schr., 159 g. t., b. '62, Blenden's Landing, Mich., capsized L. Mich., '93.  
 Lummis, B. R., sunk L. Hur., '72 by col., all hands lost except one.  
 Luna, schr., 25 g. t., b. '62, Eagle Harbor, passed out, '95.  
 Lurline, Can. yacht, 110 n. t., b. '88, Windsor, in com.  
 Lutts, J. V., prop., 97 g. t., b. '80, Port Clinton, O., later the C. B. Wallace.  
 Lutz, Maggie, tug, 15 g. t., b. '73, Sheboygan, in com.  
 Lutz, T. C., tug, 136 g. t., b. '96, South Chicago, in com.  
 Luyster, P. B., prop., 17 g. t., b. '97, Detroit, in com.  
 Lycoming, prop., 1,609 g. t., b. '80, Bay City, in com.  
 Lydia, schr., 83 g. t., b. '74, Manitowoc, in com.  
 Lydon, Harry, tug, b. Benton Harbor, '98.  
 Lydon, Mary Ann, Can. schr., 317 n. t., b. '74, Port Burwell, in com.  
 Lyon, st. light'r, 80 g. t., b. '83, Pike Creek, Ont., in com.  
 Lyon, E. M., sunk by col., L. Erie, '55.  
 Lyon, Gen., tug, sunk Point Pelee, '64.  
 Lyon, John B., prop., 1,710 g. t., b. '81, Cleveland, in com.  
 Lyon, L. L., tug, 76 g. t., b. '57, Cleveland, in com.  
 Lyon, Mary, schr., 334 g. t., b. '74, Port Huron, in com.  
 Lyon, W. G., schr., 66 g. t., b. '68, Essex, passed out, '94.  
 Lyons, Daniel, schr., sunk L. Mich., by col., '78.  
 Lyons, Kate, schr., 201 g. t., b. '66, Black River, O., in com.  
 Lyons, Steve H., tug, 12 g. t., b. '74, Buffalo, in com.  
 Lyons, W. S., schr., b. '66, Black River, O., sunk Malden, '69, lost, '71.  
 Lyric, tug, 11 g. t., b. '87, Buffalo, in com.  
 M. I. Wilcox Co., tug, 129 g. t., formerly the Jessie P. Logie.  
 Mabel, Can. slp., 65 g. t., b. '83, Dog Lake, in com.  
 Mabel, Can. prop., 14 n. t., b. '87, Penetange, in com.  
 Mabel, sty., 6 g. t., b. '87, South Boston, Mass., passed out, '95.  
 Mac, Joe, Can. tug, 51 n. t., b. '73, Buffalo, in com.  
 Mac, Lydia, scow, sunk near Port Stanley, '77.  
 Macassa, Can. prop., 363 n. t., b. '88, Port Glasgow, in com.  
 Macatawa, tug, 70 g. t., b. '83, Saugatuck, in com.  
 MacDonald, T. A., Can. schr., 137 g. t., b. '63, Port Rowan, in com.  
 Macedonia, schr., 60 t., b. Cleveland, '26.  
 Macfarlane, Lilly, Can. scow, 14 g. t., b. '72, Port Credit, in com.  
 Mack, Jennie P., bark, disabled, L. Ont., '69.  
 Mackernan, Effie L., tug, passed out.  
 Mackinaw, schr., sunk off Cleveland, '51.  
 Mackinaw, (flat) stmr., 191 t., b. Detroit, '66.  
 Mackinaw, prop., 203 g. t., b. '80, Port Huron, burned L. Hur., '90.  
 Macomb, stmr., 100 t., b. Mt. Clemens, '37, condemned, '42, later rebuilt.  
 Macy, David, schr., 192 g. t., b. '78, Grand Haven, sunk by col., L. Erie, '96.  
 Macy, Sylvanus J., prop., 752 g. t., b. '81, Marine City, in com.  
 Mad Cap, Can. slp., 23 g. t., b. '88, Rockport, in com.  
 Madagascar, prop., 1,203 g. t., b. '94, West Bay City, in com.  
 Madawaska, Can. prop., 15 g. t., b. '93, Arnprior, in com.  
 Madden, Lizzie, prop., 690 g. t., formerly Chenango, b. '87, Detroit, in com.  
 Madden, Thomas F., tug, 17 g. t., b. '91, Buffalo, in com.  
 Madelina, schr., b. L. Sup., '38.  
 Madeline, Can. schr., 39 g. t., b. '82, Bronte, in com.  
 Madeira Pet., foreign, schr., arrived '57 from Europe.  
 Madison, schr., 110 t., passed out.  
 Madison, stmr., 630 t., b. Erie, '37, condemned, '49.  
 Madison, James, schr., 593 t., b. U. S. Gov., L. Ont., '13, 24 guns.  
 Madonna, schr., 76 g. t., b. '71, Milwaukee, in com.  
 Maelstrom, Can. schr., b. Montreal, '16.  
 Maganettewan, Can. prop., 187 g. t., b. '77, Byng Inlet, wrecked Byng Inlet, '96, stranded L. Hur., '97.  
 Magdalena, schr., 74 g. t., b. '65, Dover, O., in com.  
 Magee, John, 331 g. t., b. '69, Oswego, in com.  
 Magellan, schr., foundered L. Sup., '77, with all hands.  
 Maggie, Can. scow, b. Cleveland, '47, total loss, L. Hur., '71.  
 Maggie, Can. bge., 484 n. t., b. '70, Garden Island, in com., formerly Oneida.



- Maggie, Can. prop., 37 g. t., b. '73, Buffalo, in com.  
 Maggie, Can. bge., 284 n. t., b. '81, Sorel, in com.  
 Maggie, slp., 8 g. t., b. '92, Chicago, in com.  
 Maggie D., schr., 14 g. t., b. '83, Saganing, passed out, '95.  
 Maggie, Jessie, schr., 48 g. t., b. '87, Sebewaing, in com.  
 Maggie L., Can. schr., 48 n. t., b. '89, Picton, in com.  
 Maggie May, Can. tug, 39 n. t., b. '89, Meaford, in com.  
 Maggie May, Can. tug, 32 n. t., b. '91, Washburne, in com.  
 Magic, schr., afloat '54, sunk Saginaw bay, raised '61.  
 Magic, sty., 63 g. t., b. '77, Pultneyville, passed out, '94.  
 Magill, C. J., schr., 334 g. t., b. '63, Cleveland, in com.  
 Magna, i. sty., 16 g. t., later the Fannie H.  
 Magna, sty., 15 g. t., b. '75, Chicago, passed out, '94.  
 Magna, s. schr., 3,256 g. t., b. '96, Chicago, in com.  
 Magnet, Brit. brig, 187 t., 14 guns, b. L. Ont., '14, formerly the Beresford, burned by her crew, '14, to escape capture.  
 Magnet, Can. stmr., 496 n. t., b. on Clyde, put together at Niagara in '47, now the Hamilton.  
 Magnet, stmr., 256 t., b. Saginaw, '56.  
 Magnet, schr., 217 g. t., b. '64, Buffalo, in com.  
 Magnet, prop., sunk by col., L. Ont., '67.  
 Magnet, tug, 42 g. t., b. '71, Ferrysburg, Mich., in com.  
 Magnet, schr., 38 g. t., b. '80, Sibley's Quarry, Mich., in com.  
 Magnetic, schr., 1,676 g. t., b. '82, Cleveland, in com.  
 Magnetic, schr., sunk off Bar Point, '90.  
 Magnetta, bark, abandoned, '60.  
 Magnolia, schr., 200 t., b. Charleston, O., '45, lost, Gull island, '56.  
 Magnolia, schr., 117 g. t., b. '63, Sheboygan, in com.  
 Magruder, J. H., schr., 136 g. t., b. '69, Touissant, O., wrecked near Harrisville, '95.  
 Mahala, schr., ashore L. Mich., '47.  
 Mahar and Burns, stcb., 137 g. t., b. '87, Lockport, N. Y., in com.  
 Mahoning, brig, 259 t., b. '48, Black River, O., cap-sized L. Mich., '64.  
 Mahoning, s. prop., 2,189 g. t., b. '92, Wyandotte, in com.  
 Maia, s. schr., 3,805 g. t., b. Chicago, '98, in com.  
 Maid Lark, schr., 22 g. t., b. '68, Erin, Mich., in com.  
 Maid of the Mill, schr., 200 t., b. Oswego, '45.  
 Maid of the Mill, Can. prop., 8 g. t., b. '86, Chippewa, in com.  
 Maid of the Mist, stmr., b. '46, Niagara r.  
 Maid of the Mist, stmr., b. '54, ran the rapids successfully, '67.  
 Maid of the Mist, Can. prop., 62 g. t., b. '85, Niagara Falls, in com.  
 Maid of the Mist, prop., 99 g. t., b. '92, Niagara Falls, N. Y., in com.  
 Maid of the West, schr., lost L. Mich., '56.  
 Maida, s. schr., 3,475 g. t., b. West Superior, '98, in com.  
 Maime, scow, wrecked Point aux Barques, '58.  
 Maime, schr., 144 t., b. '52, Black River, wrecked L. Mich., '87.  
 Maine, prop., 332 g. t., b. '62, Cleveland, in com.  
 Maine, prop., burned Port Huron, '80.  
 Mainland, bark, lost '71.  
 Maitland, Can. barkentine, 280 t., sunk by col., Mackinaw.  
 Maitland, bark, ashore, L. Ont., '65.  
 Maize, schr., 268 g. t., b. '56, Toledo, in com.  
 Majel, schy., 6 g. t., b. '87, South Boston, Mass., in com.  
 Majestic, prop., 1,985 g. t., b. '89, West Bay City, in com.  
 Majestic, Can. prop., 954 n. t., b. '95, Collingwood, in com.  
 Majestic, Can. prop., 68 g. t., b. Young's Point, Ont., '97, in com.  
 Major, prop., 147 g. t., b. '91, Buffalo, in com.  
 Malakoff, schr., sunk L. Hur., '57.  
 Malakoff, Can. prop., wrecked.  
 Malcolm, J., schr., disabled L. Erie, '45.  
 Malshan, Can. schr., b. '16, Montreal, broken up.  
 Malta, Can. schr., 215 g. t., b. '68, St. Catharines, in com.  
 Malta, s. schr., 2,237 g. t., b. '95, South Chicago, in com.  
 Mamie, stm. y., sunk by col., Detroit r., '80, 17 lives lost.  
 Mamie, schr., 18 g. t., b. '83, South Haven, passed out, '95.  
 Mamie Belle, schr., ashore Ballard's reef, '81.  
 Mammoth, scow, sunk Cleveland, '91.  
 Manche, Montague, schr., in com. '66.  
 Manchester, Can. brig, b. Wolf island, L. Ont., before '52, wrecked L. Erie, '59.  
 Manchester, c. prop., 2,132 g. t., b. '89, Wyandotte, in com.  
 Manda, s. schr., 3,256 g. t., b. '96, South Chicago, in com.  
 M. and M., tug, 30 g. t., b. '90, Menekaunee, in com.  
 Manhattan, brig, 140 t., b. Detroit, '36, largest square rigged v. then on lakes, wrecked near Point Abino, '38.  
 Manhattan, stmr., b. Buffalo, '37.  
 Manhattan, prop., 330 t., b. Cleveland, '47, wrecked Grand Sauble, L. Sup., '59.  
 Manhattan, prop., sunk by collision L. Sup., '51.  
 Manhattan, prop., 1,545 t., b. '87, Detroit, in com.  
 Manicouagan, Can. schr., 143 g. t., b. Ottawa, in com.  
 Manistee, prop., foundered L. Sup., '83, 23 lives lost.  
 Manistique, prop., 473 g. t., b. '82, Gibraltar, in com.  
 Manitoba, Can. stmr., 800 t., b. Thorold, '71, now the Carmona.  
 Manitoba, Can. schr., 80 g. t., b. '72, Port Ann, in com.  
 Manitoba, Can. bge., 75 g. t., b. '82, Bedford Mills, in com.  
 Manitoba, Can. prop., 2,518 n. t., b. '89, Owen Sound, in com.  
 Manitou, schr., 333 g. t., b. '73, Pt. Dalhousie, Ont., in com.  
 Manitou, Can. prop., 497 g. t., b. '77, Sorel, in com.  
 Manitou, s. prop., 2,944 g. t., b. '93, Chicago, in com.  
 Manitou, schy., 31 g. t., b. '96, Cleveland, in com.  
 Manitoulin, Can. stmr., burned Georgian Bay, '82, 30 lives lost.  
 Manitoulin, Can. prop., now the Atlantic.  
 Manitowoc, schr., 75 t., b. Milwaukee, '41.  
 Manitowoc, schr., 507 g. t., b. '68, Manitowoc, in com.  
 Manley, Geo., Can. bge., 370 n. t., b. '71, Quebec, in com.  
 Mann, Curtis, aground at flats, '60.  
 Mann, Mary, prop., 11 g. t., b. '91, Osakis, Minn., in com.  
 Manning, schr., b. Clayton, N. Y., damaged '69.  
 Manning, John P., prop., 13 g. t., b. '91, Ashtabula, in com.  
 Manola, s. prop., 2,325 g. t., b. '90, Cleveland, in com.  
 Mansfield, schr., 214 t., b. Buffalo, '47, wrecked Euclid, '54, sunk by col., L. Mich., '55.  
 Mansfield, Can. prop., 178 n. t., b. '89, Ottawa, in com.  
 Mansfield, s. ligh'r, 382 g. t., b. '92, Cleveland, in com.  
 Mantenee, schr., 647 g. t., b. '73, Trenton, Mich., in com.

- Manton, John W., schr., 14 g. t., b. '83, Salsburg, Mich., passed out, '97.
- Manzanilla, Can. schr., 400 t., b. '73, sunk L. Erie, '87.
- Maple Leaf, Can. stmr., 400 t., b. Kingston, '51.
- Maple Leaf, Can. schr., wrecked '83, rebuilt and renamed Honora Carr.
- Maple Leaf, schr., 299 t., b. Buffalo, '54, wrecked Detroit island, '67.
- Maple Leaf, schr., 141 t., b. '67, wrecked Buffalo, '83.
- Maple Leaf, Can. schr., 58 n. t., b. '80, Bronte, in com., burned Toronto, '85.
- Maple Leaf, Can. schr., 28 g. t., b. '71, Toledo, in com.
- Maple Leaf, Can. prop., 29 g. t., b. '75, Port Dover, in com.
- Maquam, stmr., 370 g. t., b. '81, Grand Island, Vt., in com.
- Mar, Helen, schr., wrecked L. Ont., '62.
- Mar, Helen, stmr., on river at Saugatuck, '56 to '69.
- Marble, Dan, schr., b. before 1850, Conneaut, sunk Long Point, '75.
- March, J. P., bark, 355 t., b. Vermilion, '64.
- Marcia, s. schr., 2,237 g. t., b. '95, Chicago, in com.
- Marco Polo, Can. schr., 154 g. t., b. '54, Oakville, in com.
- Marcy, Gov., stmr., 161 t., b. Black Rock, '33, wrecked Dunkirk, '47.
- Marcy, Gov., small schr., wrecked Point Albino, '44, 5 lives lost.
- Marengo, schr., 104 t., b. '31, sunk L. Erie, '56.
- Marengo, schr., 648 g. t., b. '73, Milwaukee, in com.
- Margaret, sty., 13 g. t., b. '91, in com.
- Margaret, tug, 42 t., b. Buffalo, '67.
- Margaret, Can. schr., on L. Ont., '40.
- Margaret Ann, Can. schr., 16 g. t., b. '70, Port Credit, in com.
- Margaret, Mary, schr., wrecked L. Mich., '54.
- Margaret, bge., sunk in Straits, '70, raised, '71, and made schr.
- Margie E., schr., 41 g. t., b. '91, Ashland, in com.
- Margretta, tug, 19 g. t., b. '92, Ashtabula, in com.
- Marguerite, Can. prop., 8 g. t., b. '79, Detroit, in com.
- Marguerite, s. tug, 28 g. t., b. '94, Cleveland, in com.
- Maria, schr., 100 g. t., b. '36, Maumee, O.
- Maria, schr., 24 t., wrecked near Mackinac, '41.
- Maria, schr., 104 t., b. '66, lost near Hedgehog, '83.
- Maria, scow, sunk Nine Mile Point, '75.
- Maria, schr., 8 g. t., b. '78, Milwaukee, in com.
- Maria Ann, schr., 256 g. t., b. '64, Conneaut, passed out, '93.
- Maria Annette, Can. prop., 197 g. t., b. '67, Quebec, wrecked L. Ont., '98.
- Maria, Black, bark, wrecked near Chicago, '55.
- Maria, B. M., tug, 25 g. t., b. '74, Grand Haven, in com.
- Maria, Mary, schr., wrecked Presque Isle, '56.
- Marian, schr., injured L. Erie, '44.
- Marian, steb., 128 g. t., b. '89, Buffalo, in com.
- Maricopa, s. prop., 4,223 g. t., b. '96, Chicago, in com.
- Marie Antoinette, schr., afloat L. Erie, '27.
- Marie Julie, brig, foundered near Magdalen Islands, '70.
- Marie Louise, Can. stmr., 88 n. t., b. '89, Quebec, in com.
- Marie Victoire, schr., wrecked Sand Point, '87.
- Mariel, tug, 36 g. t., b. '83, Chicago, in com.
- Marina, s. prop., 2,431 g. t., b. '91, Chicago, in com.
- Marinda, schr., 60 t., b. Lexington, '45.
- Marine Belle, schr., ashore, '61.
- Marine City, stmr., 337 g. t., b. '66, Marine City, in com.
- Marine City, stmr., burned near Alcona, '80.
- Mariner, schr., 30 g. t., b. '24, Ohio City, passed out, '97.
- Mariner, schr., wrecked near Chicago, '52.
- Mariner, schr., 274 g. t., b. '56, Ogdensburg, passed out, '96.
- Mariner, 104 t., b. Detroit, '60.
- Mariner, prop., 220 t., burned Thames r., '69.
- Mariner, schr., sunk near Centreville, '75.
- Marinette, bge., 559 t., wrecked Frankfort, '86, 7 lives lost.
- Marinette, tug, 61 g. t., b. '85, Manitowoc, in com.
- Marion, slp., b. Lake Ont., before '12.
- Marion, schr., 140 t., b. Charleston, O., '41, wrecked, Buffalo, '52, 4 lives lost.
- Marion, schr., 53 t., b. Silver Creek, '43.
- Marion, schr., 155 g. t., b. '82, Ticonderoga, passed out, '97.
- Marion, schr., 155 g. t., b. '82, in com.
- Marion, tug, 17 g. t., b. '89, Saginaw, in com.
- Marion, prop., 1,206 g. t., b. '89, Sheboygan, in com.
- Mariquita, prop., 11 g. t., b. '73, Rhinebeck, N. Y., in com.
- Mariposa, s. prop., 2,831 g. t., b. '92, Cleveland, in com.
- Mariska, s. prop., 2,325 g. t., b. '90, Cleveland, in com.
- Maritina, s. prop., 2,957 g. t., b. '92, South Chicago, in com.
- Mark, schr., 33 t., passed out.
- Markham, George C., prop., 309 g. t., b. '83, Milwaukee, in com.
- Marks, John, schr., 299 g. t., b. '70, Trenton, Mich., in com.
- Marks, Kate, Can. tug, 54 g. t., b. '75, Bruce Mines, in com.
- Markwell, tug, 13 g. t., b. '85, Vermilion, O., in com.
- Marquette, prop., 862 t., b. Detroit, '59, sunk Bear Point, '65.
- Marquette, schr., sunk by col., near Sheboygan, '62.
- Marquette, prop., 1,343 g. t., formerly Republic, b. '91, Cleveland, in com.
- Marquis, Can. bge., 488 n. t., b. Mill Point, '72, lost Forest bay, '92.
- Marquis of Lorne, Can. prop., 28 n. t., b. '74, Kingston, in com.
- Mars, schr., lost L. Mich., '57, 5 lives lost.
- Mars, schr., 234 g. t., b. '72, New Jerusalem, O., in com.
- Mars, steb., 131 g. t., b. '80, Ithaca, N. Y., in com.
- Marsh, Caroline, old schr., wrecked, Oswego, '90.
- Marsh, George A., schr., 202 g. t., b. '82, Muskegon, in com.
- Marsh, George A., prop., 95 g. t., b. '79, Sandusky, passed out, '91.
- Marsh, John, Can. bge., sunk L. Ont., '83.
- Marsh, Phineas S., schr., 543 g. t., b. '67, Black River, foundered L. Sup., '96.
- Marsh, S. A., Can. schr., 261 g. t., b. '54, Port Hope, in com.
- Marshall, schr., wrecked L. Erie, '31.
- Marshall, stmr., 51 t., b. Perrysburg, '38, broken up.
- Marshall, Charlie, schr., 219 g. t., b. '81, Chicago, in com.
- Marshall, Chief Justice, schr., b. Cape Vincent, wrecked near Barcelona, '62.
- Marshall, Henry, tug, 54 g. t., later the Jesse Spaulding.
- Marshall, J. D., prop., 531 g. t., b. '91, South Haven, in com.
- Marshall, John, schr., wrecked near Mexico Bay, '44.
- Marshall, Maggie, stb., 365 g. t., formerly William Crippin, b. '73, Manistee, in com.
- Marshall, Samuel, prop., 755 g. t., b. '88, Grand Haven, in com.
- Marshfield, schr., in com., '54, became in '63 the Princess Alexandria.

- Marsilliot, A. E. schr., capsized L. Erie, '60.  
 Marston, J. H., prop., 118 g. t., b. '82, Appleton, Wis., in com.  
 Martel, Mae, prop., 39 g. t., b. '95 Saugatuck, in com.  
 Martha, s. schr., 3,256 g. t., b. '96, Chicago, in com.  
 Martha Ann, Can. slp., 45 g. t., b. '76, Dog Lake, in com.  
 Martin, D. A., Can. prop., 78 g. t., b. '89, Kippewa, in com.  
 Martin, D. R., schr., 326 g. t., b. '57, Cleveland, in com.  
 Martin, F., Can. schr., 62 g. t., b. '69, Chatham, in com.  
 Martin, H. N., tug, in com., '88.  
 Martin, J. B., schr., 385 t., b. Detroit, '58, lost with all hands L. Hur., '69.  
 Martin, James H., tug, 36 g. t., b. '69, Cleveland, in com.  
 Martin, Jas. T., tug, 47 g. t., b. '96, Port Huron, in com.  
 Martin, Jessie, schr., 42 g. t., b. '81, Muskegon, in com.  
 Martin, John, tug, 20 g. t., b. '71, Algonac, in com.  
 Martin, John, tug, foundered Georgian Bay, '90.  
 Martin, John, schr., 937 g. t., b. '73, Cleveland, in com.  
 Martin, Maria, schr., 568 g. t., b. '66, Cleveland, in com.  
 Martin, Minnie, Can. prop., 78 g. t., b. '82, Port Severn, in com.  
 Martin, S. K., prop., 302 g. t., formerly City of St. Joseph, b. '83, Benton Harbor, in com.  
 Martin, Thos., schr., 201 t., b. Oswego, '62, passed out.  
 Martini, Mary, stmr., passed out.  
 Martini, Richard, prop., 299 g. t., b. '76, Sebewaing, Mich., in com.  
 Maruba, s. prop., 2,311 g. t., b. '90, Cleveland, in com.  
 Marvin, schr., lost off Grand Haven, '51, 9 lives lost.  
 Marvin, Selden E., schr., 618 g. t., b. '81, Toledo, O., in com.  
 Mary, schr., b. Erie, 1805, sold to U. S. Gov., surrendered by Gen. Hull, at Detroit, burned by British at River Thames, in 1813.  
 Mary, Brit. schr., captured by U. S., L. Ont., '13.  
 Mary, brig, b. Chicago, about '46.  
 Mary, schr., lost with 3 lives near Cleveland, '60.  
 Mary, schr., foundered L. Ont., with loss 5 lives, '62.  
 Mary, schr., 94 t., wrecked Muskegon, '65.  
 Mary, prop., total wreck L. Mich., '66.  
 Mary, Can. tug, 61 n. t., b. '67, Port Huron, in com.  
 Mary, schr., 19 g. t., b. '67, Erin, Mich., in com.  
 Mary, Can. schr., 252 g. t., b. '68, St. Catharines, in com.  
 Mary, schr., 18 g. t., b. '72, Sheboygan, in com.  
 Mary, schr., wrecked L. Ont., '73.  
 Mary, sty., 36 g. t., b. '76, Milwaukee, in com.  
 Mary, Can. schr., 109 n. t., b. '77, Thorold, in com.  
 Mary, prop., 170 g. t., b. '82, Marine City, in com.  
 Mary, schr., 17 g. t., b. '86, Rock Falls, Mich., in com.  
 Mary, schr., 109 t., wrecked Rondeau, '86.  
 Mary, prop., 219 g. t., b. '92, Toledo, in com.  
 Mary Alice, Can. scow, 51 g. t., b. '66, River Reescum, in com.  
 Mary Amelia, schr., 94 g. t., b. '65, Port Huron, in com.  
 Mary Ann, slp., b. L. Ont., before 1801.  
 Mary Ann, schr., wrecked L. Ont., '62.  
 Mary Ann, Can. tug, 97 n. t., b. '67, Dunnville, in com.  
 Mary Ann, scow, wrecked Marblehead, '70.  
 Mary Ann, schr., b. Sheyogan, '71.  
 Mary Ann, schr., wrecked Grand Haven, '83.  
 Mary Ann, tug, 6 t., foundered Georgian Bay, '83, 2 lives lost.  
 Mary Ann, schr., 38 g. t., b. '69, Fremont, O., passed out, '93.  
 Mary Ann, Can. schr., 43 g. t., b. '70, Port Credit, in com.  
 Mary Ann, schr., 6 g. t., b. '71, Green Bay, passed out, '93.  
 Mary Ann, schr., 18 g. t., b. '85, Charlevoix, in com.  
 Mary D., schr., 52 g. t., b. '77, Sebewaing, in com.  
 Mary Elizabeth, schr., wrecked, '46.  
 Mary Elizabeth, schr., 127 t., foundered L. Erie, '67, crew of 7 lost.  
 Mary Ellen, Can. prop., 81 g. t., b. '68, Lindsay, in com.  
 Mary Ellen, Can. tug, 48 n. t., b. '96, Cornwall, in com.  
 Mary Ethel, Can. prop., 99 g. t., b. '79, Trenton, in com.  
 Mary Frances, schr., 157 t., in com., '54, wrecked Rondeau, '65.  
 Mary Frances, Can. schr., 15 g. t., b. '72, Toronto, in com.  
 Mary H., prop., 209 g. t., b. '86, Nicolet, Wis., in com.  
 Mary Helen, scow, ashore L. Mich., '68.  
 Mary Jane, schr., sunk Toronto, '55.  
 Mary Jane, Can. scow, 106 g. t., b. '66, Port Robinson, in com.  
 Mary L., schr., 28 g. t., b. '95, White Lake, Mich., in com.  
 Mary Louise, Can. prop., 10 g. t., b. '93, Lindsay, in com.  
 Mary Louise, Can. prop., 64 g. t., b. '84, Franklin, in com.  
 Mary and Norman, prop., 17 g. t., b. '91, Ashtabula, in com.  
 Mary Maria, schr., wrecked L. Ont., '56, 7 lives lost.  
 Mary Margaret, schr., capsized Grand River, '53, 4 lives lost.  
 Mary Salina, schr., ashore L. Ont., '65.  
 Mary Virginia, tug, 33 g. t., formerly Geo. W. Lorimer.  
 Maryette, sty., 44 g. t., b. '94, Cleveland, in com.  
 Maryland, schr., 188 t., b. Fairport, '44, sunk at Fairport, '45, raised.  
 Maryland, s. prop., 2,419 g. t., b. '90, Wyandotte, in com.  
 Marysburg, schr., 150 t., b. South Bay, '70, ashore Pt. Pelee, '71.  
 Masaba, s. prop., 2,431 g. t., b. '91, Chicago, in com.  
 Mascot, Can. tug, 28 n. t., b. '90, Meaford, in com.  
 Mascotte, Can. prop., 34 n. t., b. '86, Toronto, in com.  
 Mascotte, i. prop., 137 g. t., b. '85, Wyandotte, passed out, '96.  
 Mascotte, tug, 10 g. t., b. '88, Cleveland, in com.  
 Mascotte, i. prop., 162 g. t., b. '95, Wyandotte, in com.  
 Mason, stmr., 33 t., b. Grand Rapids, '37, condemned.  
 Mason, E. L., tug, 42 g. t., later the Ella G. Stone.  
 Mason, G. W., tug, b. Port Huron, '98.  
 Mason, Gov. stmr., wrecked L. Mich., '40.  
 Mason, L. G., stmr., 139 t., b. Grand Rapids, '64, burned Bay City, '86.  
 Mason, L. M., schr., lost L. Ont., '61.  
 Mason, L. M., schr., 249 g. t., b. '66, Algonac, in com.  
 Mason, Lottie, schr., 69 g. t., b. '80, Charlevoix, in com.  
 Mason, Nellie, schr., 554 g. t., b. '82, Saginaw, in com.  
 Mason, Maggie, Can. prop., 56 g. t., b. '82, Toronto, in com.  
 Mason, R. P., 155 g. t., b. '67, Ferrysburg, Mich., in com.  
 Mason, S. M., schr., 360 t., b. Port Huron, '53, passed out.  
 Mason, W. G., tug, b. Pt. Huron, Mich., '98.  
 Masonic, Can. prop., 21 n. t., b. '93, Hamilton, in com.  
 Massachusetts, schr., wrecked near Niagara river, '37.  
 Massachusetts, brig, b. Kalamazoo river, '43.  
 Massachusetts, prop., 1,415 g. t., b. '82, Detroit, in com.  
 Massasoit, schr., 842 g. t., formerly Jesse Lind, b. '74, Gibraltar, chartered ocean service, '98.  
 Massasauga, prop., 164 g. t., b. '78 Buffalo, passed out, '93.  
 Massasauga, stmr., burned Gibraltar, '90.

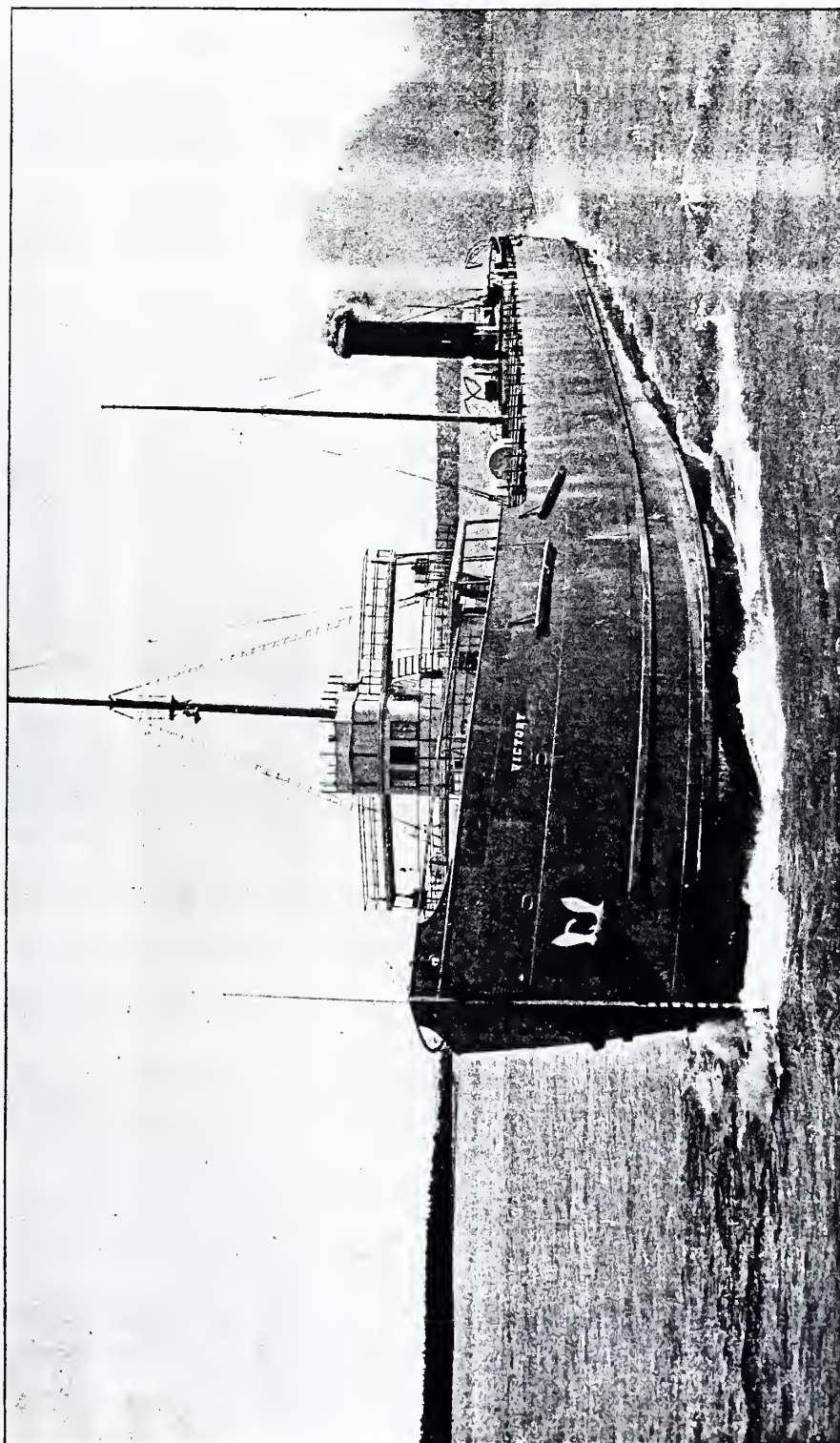


- Massassauga, stcb., 119 g. t., b. '94, Lockport, in com.  
 Massena, prop., 72 g. t., b. '78, Buffalo, in com.  
 Massilon, schr., ashore Sleeping Bear bay, '58.  
 Masten, Joseph G., schr., 620 g. t., b. '67 Cleveland, wrecked Two Rivers, '97.  
 Masters, E., schr., b. Black River, '54, damaged, '65.  
 Masters, I. U., tug, 204 t., b. Cleveland, '62, later the Phoenix.  
 Matawan, Can. prop., 525 t., wrecked, '88.  
 Mate E., prop., 13 g. t., b. '91, Port Clinton, O., in com.  
 Mather, Carrie, sty., 21 g. t., b. '80, Muskegon, in com.  
 Mather, Samuel, prop., 1,576 g. t., b. '87, Cleveland, sunk by col., '91.  
 Mather, Samuel, s. prop., 1,713 g. t., b. '92, West Superior, in com.  
 Mather, S. L., schr., 538 t., b. Vermilion, '70.  
 Matthews, scow, sunk Kelley's Island, '61.  
 Matthews, Jennie, schr., 332 g. t., b. '74, Port Huron, in com.  
 Matilda, schr., ashore L. Ont. '39.  
 Matilda, schr., 29 g. t., b. '72, Mt. Clemens, in com.  
 Matilda, bge., 299 t., sunk L. Huron, '86.  
 Matoa, s. prop., 2,311 g. t., b. '90, Cleveland, in com.  
 Mattawan, Can. prop., 22 g. t., b. '76, Portsmouth, in com.  
 Mattie, Can. schr., 18 g. t., b. '81, Sarnia, in com.  
 Mattie, slp., 44 g. t., b. '67, Port Douglass, N. Y., in com.  
 Mattson, Frank, tug, 8 g. t., b. '82, Erie, passed out, '97.  
 Maud, Can. tug, 57 n. t., b. '74, New Liverpool, in com.  
 Maud, Can. schr., 137 g. t., b. '75, Ottawa, in com.  
 Maud, Can. prop., 40 n. t., b. '87, Penetang, in com.  
 Maud L., Can. tug, 17 n. t., b. '84, Sauble river, in com.  
 Maud S., Can. schr., 21 g. t., b. '80, Georgian Bay, in com.  
 Maud S., tug, 33 g. t., b. '81, Buffalo, in com.  
 Maud S., tug, 45 g. t., b. '81, West Bay City, Mich., in com.  
 Maud S., Can. schr., 25 g. t., b. '84, Port Credit, in com.  
 Maud S., Can. tug, 17 n. t., b. '87, Collingwood, in com.  
 Maud S., tug, sunk near Cheboygan, '88.  
 Maude, Can. stmr., 172 n. t., b. '69, Montreal, in com.  
 Maumee Valley, schr., 213 g. t., b. '68, Perrysville, O., in com.  
 Maurice, T. W., brig, 57 t., wrecked Windmill Point, '50.  
 Mautenee, schr., 647 g. t., b. '73, in com.  
 Maxon, F. C., tug, 25 g. t., b. '74, Milwaukee, passed out, '94.  
 Maxwell, A., tug, 67 g. t., b. '91, Bay City, in com.  
 Maxwell, A. C., schr., 469 g. t., b. '70, Saginaw Valley, in com.  
 Maxwell, Emily B., schr., 360 g. t., b. '81, Manitowoc, in com.  
 Maxwell, E. G., tug, 88 g. t., b. '93, Grand Haven, in com.  
 Maxwell, William, tug, 44 g. t., b. '83, Chicago, in com.  
 May, tug, 29 g. t., b. '71, Oconto, in com.  
 May, tug, foundered L. Mich., '73.  
 May, Can. schr., 165 g. t., b. '80, Montreal, in com.  
 May, Allie, tug, 27 g. t., b. '84, Marine City, in com.  
 May, Anna, schr., 27 g. t., b. '86, Crow Island, Mich., passed out, '95.  
 May Bird, Can. prop., 46 g. t., b. '93, Toronto, in com.  
 May C., slp., 8 g. t., b. '87, Chicago, passed out, '95.  
 May, Ella, schr., 13 g. t., b. '86, St. James, Mich., in com.  
 May, Eddie, Can. prop., 5 g. t., b. '71, Brockville, in com.  
 May, Fannie H., sty., 15 g. t., b. '94, in com.  
 May Flower, Can. schr., b. '19, Niagara.  
 May, Ida, schr., 21 g. t., b. '69, Fraser, Mich., passed out, '91.  
 May, Ida, schr., 21 g. t., b. '69, Erin, Mich., passed out, '94.  
 May, Isaac, Can. prop., now the Can. prop. Orion.  
 May, Laura, sty., 37 g. t., b. '85, Freedom, Pa., in com.  
 May, Lettie, schr., 15 g. t., b. '74, Fort Howard, in com.  
 May, Lilly, schr., 300 g. t., b. '67, Algonac, in com.  
 May, Lily, tug, 42 g. t., later the Grace.  
 May, Lily, sty., 41 g. t., b. '81, Detroit, passed out, '91.  
 May, Maggie, Can. tug, 29 g. t., b. '91, Washburn, in com.  
 May, Maggie, Can. prop., 46 g. t., b. '89, Meaford, in com.  
 May, Nellie, schr., 27 g. t., b. '81, East Tawas, passed out, '97.  
 May, Nellie, Can. tug, 11 g. t., b. '84, Port Burwell, in com.  
 May Queen, stmr., 688 t., b. Trenton, '59, burned Milwaukee, '66.  
 May Queen, stcb., 132 g. t., b. '80, Watkins, N. Y., passed out, '92.  
 May Queen, schr., wrecked South Haven, '82.  
 May Rose, schr., 24 g. t., b. '71, Hamtramck, Mich., in com.  
 May, Verbena, Can. tug, wrecked near Stokes bay, '96.  
 Maybee, Dan, schr., 193 g. t., formerly I. N. Hill, b. '66, Neshoto, in com.  
 Mayes, E. A., schr., in com., '79.  
 Mayflower, brig, 259 t., b. Cleveland, '44, lost L. Hur., '67.  
 Mayflower, stmr., 1,300 t., b. Detroit, '49, wrecked Point Pelee, '54.  
 Mayflower, Can. schr., 300 g. t., b. '50, wrecked.  
 Mayflower, prop., 415 t., b. '52, wrecked Long Point, '83.  
 Mayflower, prop., 37 g. t., b. '53, Detroit, passed out, '93.  
 Mayflower, schr., capsized off Black River, O., '64, 8 lives lost.  
 Mayflower, tug, 127 t., b. Marine City, '64.  
 Mayflower, scow, sunk off Kelley's island, '75.  
 Mayflower, sty., 22 g. t., b. '83, Detroit, in com.  
 May Flower, Can. tug, 29 g. t., b. '87, Kemptville, in com.  
 Mayflower, Can. stmr., 247 n. t., b. '90, Toronto, in com.  
 Mayflower, Can. tug, 14 n. t., b. '91, Baxter, in com.  
 Mayflower, Can. stmr., formerly Comet.  
 Mayflower, scow, sunk L. Sup., '91.  
 Maynard, J. F., sty., 37 g. t., b. '77, Carthage, N. Y., passed out, '97.  
 Mays, Nellie, tug, sunk near Saginaw, '70.  
 Maytham, tug, 40 g. t., b. '74, Buffalo, in com.  
 Maytham, E. C., tug, 55 g. t., b. '85, Buffalo, in com.  
 Maytham, George, Can. prop., 40 g. t., b. '70, Buffalo, in com.  
 Maytham, Thos., s. prop., 2,330 g. t., b. '92, South Chicago, in com.  
 Maytham, Tom, tug, 39 g. t., b. '80, Buffalo, in com.  
 Mazeppa, stmr., 130 t., b. Buffalo, '34, made sail vessel.  
 Mazeppa, Can. stmr., 250 t., b. L. Ont., '51, wrecked L. Hur., '56.  
 Mazeppa, stmr., burned Toronto, '85.  
 Mazeppa, Can. prop., 99 n. t., b. '81, Toronto, in com.  
 Mazeppa, Can. fry, 99 g. t., b. '84, Toronto.  
 McArthur, tug, burned Kingston, '90.  
 McBride, Jas., brig, lost near Sleeping Bear, '57.  
 McBride, John, Can. schr., 25 n. t., b. '77, Port Rowan, in com.  
 McBrier, A. J., schr., 111 g. t., b. '84, Wilson, N. Y., in com.

- McBrier, Fred., stmr., in com., '81, sunk by col., Mackinaw, '90.
- McCann, Margaret, tug, 35 g. t., b. '94, Grand Haven, in com.
- McCarter, W. J., tug, 18 g. t., b. '86, Erie, in com.
- McCarthy, Can. bge., 270 n. t., b. '71, Sorel, in com.
- McCarthy, D. A., Can. tug, 48 n. t., b. '93, Collingwood, in com.
- McCarthy, Wm., tug, 80 g. t., b. '97, Benton Harbor, in com.
- McClellan, schr., 29 t., b. '77, foundered L. Hur., '83, 4 lives lost.
- McClellan, Gen., canal boat, sunk Chicago, '69.
- McClellan, George B., tug, 29 g. t., b. '60, Chicago, burned Michigan City, '98.
- McClure, Myrtle L., sty., 14 g. t., b. '82, Spring Lake, Mich., passed out, '97.
- McConnell, J. H., stmr., 138 g. t., b. '77, Point Harmar, O., in com.
- McCormick, i. tug, 23 g. t., formerly A. A. Eustaphie, b. '67, Buffalo, in com.
- McCormick, tug, 160 g. t., b. '87, Grand Haven, in com.
- McCrea, Maggie, Can. schr., 675 t., sunk off Thunder Cape, '88.
- McCuig, R. C. W., Can. schr., 165 g. t., b. '79, Hull, in com.
- McCullough, J. C., schr., sunk by col., '69.
- McDonald, Charles C., tug, 16 g. t., b. '70, Buffalo, burned near Saginaw, '93.
- McDonald, Jessie, Can. schr., 84 g. t., b. '66, Welling-ton, in com.
- McDonald, John, Can. prop., 24 g. t., b. '79, Ottawa, in com.
- McDonald, John A., Can. prop., 273 g. t., b. '66, Garden Island, in com.
- McDonald, Louisa, schr., 192 g. t., b. '69, later the Lily E.
- McDonald, Mabel, Can. tug, 52 n. t., b. '91, Toronto, in com.
- McDonald, Rita, tug, 69 g. t., b. '97, West Bay City, in com.
- MacDonald, Robert, Can. schr., 70 n. t., b. '90, Picton, in com.
- McDougall, Alex., s. prop., 5,900 g. t., b. '98, West Superior, in com.
- McDougall, Archie B., schr., 25 g. t., b. '84, Grand Haven, in com.
- McDougall, J. A., tug, 30 t., b. '70.
- McDougall, John A., schr., 415 g. t., b. '73, Bangor, Mich., in com.
- McEdwards, Jessie, Can. prop., 34 n. t., b. '82, St. Catharines, in com.
- McFadden, J. D., tug, 15 g. t., b. '92, Duluth, in com.
- McFarland, D., tug, sunk Port Maitland, '80.
- McGee, John, schr., 331 t., b. Oswego, '69.
- McGilvey, N., schr., 422 t., b. '70.
- McGillivray, W., Can. schr., 157 g. t., b. '86, Hull, in com.
- McGordon, James, tug, 53 g. t., b. '76, Milwaukee, in com.
- McGraft, N., tug, 80 Grand Haven, in com.
- McGrath, J. G., schr., 217 t., b. St. Catharines, '70, foundered off Long Point, '78.
- McGregor, William, schr., 732 g. t., b. '72, Gibraltar, chartered ocean service, '98.
- McGregor, Mary A., prop., 711 g. t., b. '89, Grand Haven, in com.
- McInnis, schr., aground Detroit r., '70.
- McIntosh, G. P., Can. tug., 79 n. t., b. '88, Meaford, in com.
- McIntyre, C. A., sty., 44 g. t., b. '84, in com.
- McKay, schr., sunk, Chicago, '56.
- McKean, J., Can. tug, 33 n. t., b. '93, Sarnia, in com.
- McKenzie, R. S., Can. schr., 154 g. t., b. '81, Hull, in com.
- McKerral, P. E., Can. prop., 92 g. t., b. '70, Wallaceburg, in com.
- McKinnon, C. D., tug, 23 g. t., b. '74, Tonawanda, passed out, '92.
- McLachlan, Mary E., schr., 1,394 g. t., b. '93, West Bay City, in com.
- McLane, Lewis, U. S. rev. cut., later the Erie.
- McLane, Mary, tug, 40 g. t., b. '68, Chicago, in com.
- McLaren, James, Can. schr., 169 g. t., b. '79, Hull, in com.
- McLaren, J. Loomis, schr., 286 g. t., b. '82, Manitowoc, wrecked '94, L. Mich.
- McLaughlin, D., Can. prop., 22 g. t., b. '89, Arnprior, in com.
- McLean, Andrew A., tug, 23 g. t., b. '90, West Bay City, in com.
- McLean, Louis, first light ship, Mackinaw Straits, b. Detroit, '32.
- McLean, Maggie, Can. tug, 52 n. t., b. '86, Sauble Mills, in com.
- McLeod, Jane, Can. schr., 188 g. t., b. '68, St. Catharines, in com.
- McMahon, Agnes, Can. tug, 73 n. t., b. '70, Pt. Dalhousie, in com.
- McMillan, Grace, stmr., 235 t., b. Detroit, '79, later the Idlewild.
- McMillen, A., tug, 14 g. t., b. '72, Saugatuck, in com.
- McNair, Matthew, schr., lost, '72.
- McNaughton, Can. tug, 136 n. t., b. '88, Quebec, in com.
- McPhee, Belle, schr., sunk L. Hur., '76.
- McPherson, R. B., Can. prop., 30 g. t., b. '72, Gode-rich, in com.
- McQueen, tug, bought by U. S. Gov. during Civil war to be made a gunboat.
- McRae, Wm. F., Can. tug, 46 t., b. Wallaceburg, '80, sunk L. Hur., '95.
- McVea, Charles, prop., 331 g. t., b. '88, Saugatuck, in com.
- McVea, E. J., schr., 291 g. t., b. '73, Allegan, sunk L. Erie, '98.
- McVea, M., schr., 208 t., b. Ganges, '70.
- McVittie, A., prop., 2,046 g. t., b. '90, Detroit, in com.
- McWilliams, Ed., schr., 743 g. t., b. '93, West Bay City, in com.
- McWilliams, John J., i. prop., 3,400 g. t., b. '95, West Bay City, in com.
- McWorter, G. N., schr., damaged, '46.
- Mead, J. H., schr., 409 g. t., b. '74, Sheboygan, ashore L. Sup., '98.
- Mead, R. O., schr., wrecked L. Erie, '52.
- Mead, Gen., dredge, foundered St. Clair flats, '94.
- Meade, Spencer, sty., 17 g. t., b. '83, Buffalo, in com.
- Mears, C., prop., in com. '60, burned L. Mich., '64.
- Mears, sch., 421 t., b. '69, lost '89, L. Hur., one life lost.
- Medbury, schr., passed out.
- Mechanic, schr., 18 t., b. Detroit, '43.
- Mechanic, brig, b. Detroit, '43, foundered L. Mich., with all hands, '71.
- Mecosta, prop., 1,776 g. t., b. '88, West Bay City, in com.
- Medbury, A. schr., damaged by col., '69.
- Mediator, schr., 256 g. t., b. '62, Clayton, ashore L. Sup., '98.
- Medina, tug, 56 g. t., b. '90, Buffalo, in com.
- Mediterranean, schr., 239 g. t., b. '59, Sodus, foundered L. Mich., '91.

- Medora, schr., ashore Big Sandy creek, '35, all hands lost.  
 Medora, Can. prop., 299 g. t., b. '93, Gravenhurst, in com.  
 Medora, Ada, schr., 301 g. t., b. '67, Gibraltar, in com.  
 Mee, John, schr., 199 g. t., b. '81, Milwaukee, in com.  
 Meeker, Lewis, schr., foundered L. Hur., '72, 5 lives lost.  
 Mees, Winnie, sty., 9 g. t., b. '97, Duluth, in com.  
 Mehala, schr., ashore near Erie, '43.  
 Meisel, scow, sunk Detroit, '70.  
 Meisel, C. G., bge., abandoned off Lexington, '83.  
 Meister, C. A., tug, 23 g. t., b. '87, Grand Haven, in com.  
 Melbourne, schr., 510 g. t., b. '80, St. Clair, in com.  
 Melbourne, Can. prop., 540 n. t., b. '73, Port Dalhousie, in com, formerly A. Monro.  
 Melitta, schr., 83 g. t., b. '81, Manitowoc, in com.  
 Melrose, schr., b. Three Mile Bay, L. Ont., '52.  
 Melrose, Can. bge., 832 n. t., b. '96, Kingston, in com.  
 Melville, 279 t., British man-of-war, L. Ont., '13, 14 guns, afterwards the Charwell.  
 Melvin, Maria, tug, b. Buffalo, '65.  
 Melvina, schr., 270 g. t., b. '63, Sheboygan, in com.  
 Melvina, schr., 392 t., total loss, '69.  
 Melzer, O. Q., ashore near Shushaw Point., '54.  
 Membray, Ada, schr., wrecked near Oswego, '85.  
 Meme, schr., damaged L. Mich., '40.  
 Mendota, prop., foundered L. Mich., '75, with 12 lives.  
 Menekaunee bge., 480 t., lost '86, L. Mich., 10 lives lost.  
 Menominee, prop., 796 g. t., b. '72, Manitowoc, passed out, '96.  
 Menominee, schr., 455 g. t., b. '83, Milwaukee, in com.  
 Menominee River, tug, 73 g. t., b. '79, Green Bay, in com.  
 Menton, John W., schr., 14 g. t., b. '83, in com.  
 Mentor, tug, 29 g. t., b. '68, Cleveland, in com.  
 Mentor, prop., 305 g. t., b. '81, Fort Howard, in com.  
 Mentor, tug, 22 g. t., formerly Hattie A. Fox, b. '82, Saugatuck, in com.  
 Mercator, schr., ashore Rocky river, '23.  
 Mercer, schr., wrecked L. Hur., '69.  
 Merchant, schr., 75 g. t., b. '34, Maumee, O.  
 Merchant, schr., 70 t., b. '36, added L. Sup. fleet, '45, lost '47, 14 lives lost.  
 Merchant, schr., b. Cape Vincent, before '53.  
 Merchant, tug, 16 g. t., b. '60, Ferrysburg, Mich., in com.  
 Merchant, prop., 711 t., b. Buffalo, '62, sunk near Malden, '68, sunk near Milwaukee, '74.  
 Merchant, schr., 66 g. t., b. '74, Manitowoc, in com.  
 Merchant, prop., lost '95.  
 Mercur, Fred, prop., 1,224 g. t., b. '82, Buffalo, in com.  
 Mercury, schr., 230 g. t., b. '71, New Jerusalem, O., wrecked '94, Chicago.  
 Merida, s. prop., 3,261 g. t., b. '93, West Bay City, in com.  
 Meridian, schr., b. '48, Black River, O., sunk near Malden, '52.  
 Merlin, schr., 21 g. t., b. '88, Fort Howard, in com.  
 Mermaid, Can. scow, 9 g. t., b. '85, Chippewa, in com.  
 Merrick, E. G., schr., b. Clayton, L. Ont., before '44, wrecked Vermilion, '51.  
 Merrick, M. F., schr., ashore Georgian Bay, '65.  
 Merrick, M. F., tug, 133 g. t., b. '73, Detroit, Mich., in com.  
 Merrick, M. F., schr., b. Clayton, N. Y., '77, sunk by col., Presque Isle, '89, 5 lives lost.  
 Merrill, schr., ashore, '46.  
 Merrill, J. B., tug, 17 g. t., b. '71, Milwaukee, in com.  
 Merrill, John B., slp., 640 g. t., b. '73, Milwaukee, wrecked Drummond Isle, '93.  
 Merrill, Julia B., schr., 200 g. t., b. '72, Wenona, in com.  
 Merrill, T. R., tug, 31 g. t., later the Isbell Wayne.  
 Merrilies, Meg, schr., wrecked Manistee, '51.  
 Merrimac, schr., No. 2, 269 t., foundered off Long Point, '67, 5 lives lost.  
 Merrimac, prop., 1,398 g. t., b. '82, Detroit, in com.  
 Merritt, C. H., Can. prop., 120 n. t., b. '83, Chatham, in com.  
 Merritt, C. K., Can. stmr., burned L. Ont., '87.  
 Merritt, Mary, bark, 347 t., b. St. Catharines, '65.  
 Merritt, T. R., Can. bge., 400 n. t., b. '74, Port Dalhousie, in com., formerly schr.  
 Merry, H. F., schr., 230 t., b. '69, wrecked Silver island, '83.  
 Merry, H. P., schr., 170 t., b. Marine City, '68.  
 Merry Monarch, sty., 10 g. t., b. '92, Watertown, passed out, '97.  
 Mersley, Can. tug, 92 n. t., b. '71, Levis, in com.  
 Messenger, slp., wrecked L. Erie, '63.  
 Messenger, tug, 44 g. t., later the Fred Nielson.  
 Messenger, schr., condemned New York, '71.  
 Messenger, Can. tug, 18 n. t., b. '72, Lambton, in com.  
 Messenger, tug, 18 g. t., b. New Haven, Conn., passed out, '92.  
 Messenger, tug, 48 g. t., b. '80, Buffalo, in com.  
 Messenger, stmr., burned Rogers City, '90.  
 Metacomet, schr., 852 g. t., formerly Iron State, b. '80, Detroit, chartered ocean service, '98.  
 Metamora, Can. tug, 286 n. t., b. '64, Cleveland, in com.  
 Metcalf, schr., lost L. Ont., '61.  
 Meteor, prop., 956 t., b. Cleveland, '63.  
 Meteor, Can. stmr., 340 n. t., b. '66, Sorel, in com.  
 Meteor, schr., sunk near Put-in-Bay, '71.  
 Meteor, tug, 15 g. t., b. '80, Saugatuck, passed out, '97.  
 Meteor, stmr., sunk Spanish r., '83.  
 Meteor, Can. prop., 133 g. t., b. '89, Opemican Lake, in com.  
 Meteor, schr., 550 g. t., later the Nelson Blume.  
 Metropolis, schr., 234 t., wrecked Old Mission, '86.  
 Metropolis, stmr., 425 g. t., b. '63, Trenton, Mich., in com.  
 Metzner, Lizzie, schr., 77 g. t., b. '88, Manitowoc, in com.  
 Meyer, Ida, stcb., 135 g. t., b. '81, Rochester, in com.  
 Meyer, W. H., tug, b. St. Joseph, '98.  
 Miami, slp., 25 t., b. Perrysburg, '11, captured by British and engaged in battle L. Erie.  
 Miami, prop., 228 g. t., b. '88, Marine City, in com.  
 Miami Belle, schr., 269 g. t., later the Lizzie P. Betts.  
 Michelson, C., schr., 137 g. t., b. '67, White Lake, Mich., in com.  
 Michigan, schr., 132 t., b. Buffalo, '18, condemned and sent over Niagara Falls, '27.  
 Michigan, schr., 130 g. t., b. '32, Perrysburg, O.  
 Michigan, stmr., 472 t., b. Detroit, '33, broken up.  
 Michigan, U. S. stmr., 583 t., b. Erie, '44.  
 Michigan, stmr., 642 t., b. Detroit, '47, made bge., lost L. Erie, '69.  
 Michigan, prop., liner in '52.  
 Michigan, prop., 456 t., b. Pt. Edward, '59.  
 Michigan, brig, wrecked L. Hur., '70.  
 Michigan, Can. bge., 307 n. t., b. '71, Quebec, in com.  
 Michigan, bge., 1,290 g. t., b. '73, Walkerville, Ont., sunk L. Sup., '93.  
 Michigan, schr., 1,056 g. t., b. '74, Detroit, in com.  
 Michigan, i. prop., 1,183 t., b. '82, lost L. Mich., '85.  
 Michigan, railway stmr., dismantled Detroit, '84.  
 Michigan, Can. cfy., 1,820 n. t., b. '91, Bay City, in com.  
 Michigan Central, i. stmr., 1,522 g. t., b. '84, Wyandotte, in com.





STEEL STEAMER VICTORY.



- Michigan City, schr., 230 t., passed out.  
 Middlesex, schr., 618 g. t., b. '81, Algonac, in com.  
 Middlesex, Can. prop., burned Piquamery Point, '81.  
 Midge, schr., 70 t., b. '69, passed out.  
 Midland Rover, schr., damaged by col., '81.  
 Midnight, schr., 287 g. t., b. '56, Cleveland, passed out, '95.  
 Mikado, schr., 287 g. t., b. '95, West Bay City, in com.  
 Milan, schr., damaged L. Erie, '25.  
 Milan, schr., 147 t., b. Three Mile Bay, L. Ont., '45, sunk L. Ont., '49.  
 Milan, schr., 197 g. t., b. Milan, '61, later the Jessie L. Boyce.  
 Mildred, tug, 13 g. t., b. '68, Buffalo, passed out, '91.  
 Mildred, Can. prop., 15 g. t., b. '91, Kingston, in com.  
 Miles, Paddy, tug, 33 g. t., b. '91, Buffalo, in com.  
 Miller, A., tug, 34 g. t., b. '66, Chicago, in com.  
 Miller, Albert, prop., burned off Point au Sable, '82.  
 Miller, E. H., tug, 42 g. t., later the Ralph.  
 Miller, John, schr., aground L. Ont., '46.  
 Miller, John A., tug, 26 g. t., b. '88, Muskegon, in com.  
 Miller, Laura, schr., 55 g. t., b. '86, Chicago, in com.  
 Miller, Louis, sty., 15 g. t., b. '87, Buffalo, in com.  
 Miller, Mary, schr., 10 g. t., b. '79, Bay City, in com.  
 Miller, Peter, scow, sunk Toledo, '68.  
 Mills, Bob, prop., 30 g. t., later the Agnes Arnold.  
 Mills, Francis, brig, 116 t., b. Michigan City, '41, sunk off Erie, '47.  
 Mills, J. E., prop., 179 g. t., b. '83, Marysville, Mich., in com.  
 Mills, Mary, prop., 180 g. t., b. '72, Vicksburg, Mich., in com.  
 Mills, M. J., tug, on rivers, '68.  
 Mills, N., prop., 391 g. t., b. '70, Vicksburg, Mich., in com.  
 Mills, Philena, schr., wrecked L. Erie, '66, 3 lives lost.  
 Mills, Robert, prop., 1,790 g. t., b. '88, Buffalo, in com.  
 Milne, John, Can. prop., 121 n. t., b. '94, Nottawasaga, in com.  
 Milton, tug, 19 g. t., formerly Florence.  
 Milton, schr., 108 t., b. Milwaukee, '67, ashore Two Rivers, '85.  
 Milton, prop., 19 g. t., b. '76, Deseronto, in com.  
 Milton, Joe, Can. prop., 170 n. t., b. '91, Port Stanley, in com.  
 Milwaukee, stmr., 400 t., b. Grand Island, '37, wrecked on L. Mich., '42.  
 Milwaukee, ship, wrecked L. Mich., '42, 9 lives lost.  
 Milwaukee, prop., 200 t., formerly Vandalia, rebuilt, '46.  
 Milwaukee, stmr., b. Sandusky, '47.  
 Milwaukee, prop., sunk by col. at Straits, '59, 5 lives lost.  
 Milwaukee, stmr., 1,113 t., b. Buffalo, '59, wrecked Grand Haven, '68.  
 Milwaukee, prop., 419 t., b. Ogdensburg, '68.  
 Milwaukee, Can. bge., 385 t., b. '72, foundered L. Ont., '83.  
 Milwaukee, prop., 1,770 g. t., b. '79, Cleveland, in com.  
 Milwaukee, prop., 192 t., lost, '86, L. Mich., 1 life lost.  
 Milwaukee, tug, 52 g. t., b. '89, Sheboygan, in com.  
 Milwaukee Bell, schr., 368 t., b. Milwaukee, '54.  
 Milwaukee Belle, schr., 231 t., wrecked Beaver island, '86.  
 Minis, O. L., tug, 66 t., b. Buffalo, '67.  
 Mina, sty., 17 g. t., b. '90, Boston, Mass., in com.  
 Minch, Chas. P., schr., 408 g. t., b. '67, Vermilion, O., ashore Georgian Bay, '98.  
 Minch, Philip, prop., 1,988 g. t., b. '88, Cleveland, in com.  
 Minch, Sophia, schr., 635 g. t., b. '73, Vermilion, O., in com.
- Mindoa, sty., passed out.  
 Miner, stmr., lost L. Sup., '59.  
 Miner, Franc., schr., 45 g. t., b. '85, Green Bay, in com.  
 Miner, J. I., tug, 23 g. t., b. '80, Detroit, in com.  
 Miner, I. L., bge., 137 g. t., b. '78, in com.  
 Miner, John, tug, 31 g. t., b. '75, Cleveland, passed out, '93.  
 Miner, John, schr., 273 g. t., b. '66, Detroit, in com.  
 Miner, J. S., schr., lost '71.  
 Miner, Julia, schr., 44 g. t., b. '67, Detroit, wrecked, '94.  
 Mineral, brig, wrecked Oswego, '60.  
 Mineral City, prop., 57 g. t., b. '95, Mt. Clemens, in com.  
 Mineral Rock, prop., 428 g. t., b. '56, Buffalo, passed out, '96.  
 Mineral State, schr., 294 g. t., b. '73, Detroit, in com.  
 Minerva, schr., b. '17, first v. registered at Washington from district of Cuyahoga.  
 Minerva, schr., ashore near Oswego, '20.  
 Minerva, schr., 61 t., b. '36.  
 Minerva, schr., 222 g. t., b. '63, Black River, O., in com.  
 Minerva, Can. prop., 27 g. t., b. '69, Thorold, in com.  
 Mingoe, schr., 712 g. t., b. '93, Marine City, in com.  
 Mink, schr., 45 t., b. L. Sup. before '12, captured by Americans at Sault, '14.  
 Mink, schr., 43 t., b. Detroit, '43.  
 Mink, Can. schr., 19 g. t., b. '80, Gravenhurst, in com.  
 Mink, Can. prop., 13 g. t., b. '91, Port Carling, in com.  
 Minna, tug, 17 g. t., b. '76, Buffalo, passed out, '97.  
 Minnehaha, schr., 260 t., sunk Port Stanley, '69.  
 Minnehaha, schr., 59 g. t., b. '72, Manitowoc, lost Sheboygan, '98.  
 Minnehaha, schr., 74 g. t., b. '77, Sheboygan, in com.  
 Minnehaha, schr., 822 g. t., b. '80, Gibraltar, Mich., lost '93, 6 lives lost.  
 Minneapolis, prop., 1,072 g. t., b. '73, Marine City, sunk in Straits, '94.  
 Minneapolis, s. pr. p., 2,029 g. t., b. '97, South Chicago, in com.  
 Minnedosa, Can. bge., 1,315 n. t., b. '90, Kingston, in com.  
 Minnes, Annie, Can. schr., 201 n. t., b. '67, Portsmouth, in com.  
 Minnesetung, Can. stmr., 175 t., b. Goderich, '32.  
 Minnesetung, stmr., 250 t., b. Goderich, Ont., '34, sunk near Malden, '39, raised and became the Goderich.  
 Minnesota, stmr., 749 t., b. Maumee, '51, wrecked Green Bay, '61.  
 Minnesota, brig, 206 t., b. Chicago, '55.  
 Minnesota, stmr., 80 t., b. Buffalo, '55.  
 Minnesota, schr., 181 t., b. Chicago.  
 Minnesota, prop., 1,138 g. t., b. '80, Milwaukee, in com.  
 Minnie (flat), stmr., 242 t., b. Saginaw, '65.  
 Minnie, Can. slp., 17 g. t., b. '78, Howe Island, in com.  
 Minnie, Can. schr., 63 g. t., b. '81, Wallaceburg, in com.  
 Minnie, schr., 21 g. t., b. '81, Oshkosh, in com.  
 Minnie, Can. slp., 20 n. t., b. '82, Wolf Island, in com.  
 Minnie B., tug, 30 g. t., b. '82, Chicago, in com.  
 Minnie Bell, schr., ashore Mohawk island, '83.  
 Minnie Bell, Can. tug, 22 n. t., b. '87, Shaw, in com.  
 Minnie, Frances, Can. bge., 89 g. t., b. '85, Kingston, in com.  
 Minnie-Ha-Ha, Can. tug, 49 n. t., b. Parry Sound, in com.  
 Minnie M., prop., 447 g. t., b. '84, Detroit, in com.  
 Minnie K., prop., 37 g. t., b. '85, Ogdensburg, in com.  
 Minor, schr., 14 g. t., b. '88, Quanicassee, Mich., in com.  
 Minos, Can. schr., 250 g. t., b. '40, Chippawa, government boat.  
 Minota, Can. tug, 35 g. t., b. '90, Vermilion Bay, in com.



- Minota, Can. prop., 29 g. t., b. '91, Toronto, in com.  
 Minstral, schr., 33 g. t., b. '95, Chicago, in com.  
 Mint, E., schr., in com., '45, lost '50.  
 Minter, May A., prop., 23 g. t., b. '86, Chicago, passed out, '92.  
 Minter, Mary E., tug, 18 g. t., b. '88, South Haven, passed out, '95.  
 Minter, William B., tug, 25 g. t., b. '68, Saugatuck, in com.  
 Minx, sly., 29 g. t., b. '89, Trenton, Mich., in com.  
 Mira, schr., 24 t., passed out.  
 Miranda, tug, passed out.  
 Miranda, schr., abandoned, '71.  
 Miriam, sty., 9 g. t., b. '95, Erie, in com.  
 Mischief, Can. prop., 9 g. t., b. '86, Owen Sound, in com.  
 Mishicott, schr., 73 g. t., b. '82, Manitowoc, wrecked South Haven, '97.  
 Mississaga, Can. gunboat, b. about 1776, Navy Point.  
 Mississippi, schr., 77 t., passed out.  
 Mississippi, stmr., 182 g. t., b. Buffalo, '53, dismantled '62.  
 Missoula, prop., 1,926 g. t., b. '87, Cleveland, foundered L. Sup., '95.  
 Missouri, sc r., b. Three Mile Bay, L. Ont., '37.  
 Missouri, stmr., 612 t., b. Erie, '40, converted into prop., '68.  
 Missouri, prop., 378 g. t., b. '57, Buffalo, passed out, '91.  
 Missouri, brig, wrecked Kalamazoo r., '59.  
 Mist, schr., 14 g. t., b. '77, Port Ontario, in com.  
 Mitchell, schr., damaged L. Erie, '40.  
 Mitchell, A. C., schr., 51 t., b. Milwaukee.  
 Mitchell, Alex., brig, lost L. Mich., '66.  
 Mitchell, Belle, schr., 304 t., lost L. Erie, '86, 8 lives lost.  
 Mitchell, John, prop., 1,864 g. t., b. '89, West Bay City, in com.  
 Mitchell, Maggie, Can. tug, 37 n. t., b. '72, Port Robinson, in com.  
 Mitchell, Mary B., schr., 963 g. t., b. '88, Bay City, in com.  
 Mitchell, Minot, schr., 194 t., damaged, '69.  
 Mitchell, Oliver, schr., 320 g. t., b. '74, Algonac, in com.  
 Mitchell, Samuel, s. prop., 2,278 g. t., b. '92, Cleveland, in com.  
 Mixer, C. G., schr., 294 g. t., b. '67, Henderson, N. Y., wrecked '94, L. Mich.  
 Mixer, H. M., Can. tug, 38 n. t., b. '66, Buffalo, in com.  
 Mizpah, Can. sty., 30 n. t., b. '88, Toronto, in com.  
 Miztec, schr., 777 g. t., b. '90, Marine City, in com.  
 Mobile, schr., wrecked near Toronto, '52, stranded near Bellville, '55.  
 Mocking Bird, schr., 426 t., b. Tonawanda, '68, lost Long Point, '76.  
 Mocking Bird, tug, 177 g. t., b. '72, Port Huron, in com.  
 Mocking Bird, schr., total wreck near Charlevoix, '82.  
 Mocking Bird, Can. sty., 33 n. t., b. '83, Toronto, in com.  
 Mocking Bird, stmr., 71 g. t., b. '85, Bay City, in com.  
 Mocking Bird, schr., wrecked near Middlesex, '89.  
 Mocking Bird, tug, burned Cheboygan, '90.  
 Modjeska, Can. prop., 601 n. t., b. '89, Glasgow, in com.  
 Modock, stdp., 18 g. t., b. '81, Fairport, passed out, '95.  
 Molning, stmr., 154 t., b. Holland Landing, '51.  
 Moffat, Frank, tug, 122 t., b. '69.  
 Moffat, George, Can. stmr., 350 g. t., b. '53, Chatham, sunk Presque Isle bay, '64.  
 Moffat, Kate, tug, 134 t., b. Port Huron, '64, burned L. Hur., '85.  
 Mogul, tug, 23 g. t., b. '89, Huron, in com.  
 Mohawk, Can. gunboat, b. about 1776, Navy Point.  
 Mohawk, Can. schr., 80 g. t., b. 1794, Kingston, wrecked.  
 Mohawk, U. S. frigate, 1,350 t., 42 guns, b. L. Ont., '14.  
 Mohawk, Can. i. stmr., 150 t., b. Kingston, '42, Can. rev. cut., later bark, lost L. Huron, '68.  
 Mohawk, 213 t., b. Detroit, '62, rebuilt.  
 Mohawk, brig, sunk by col., L. Erie, '64.  
 Mohawk, bge., lost L. Ont., '70.  
 Mohawk, Can. bge., 341 n. t., b. '72, Garden Island, in com.  
 Mohawk, prop., 566 g. t., later the J. E. Potts.  
 Mohawk, stmr., 20 g. t., b. '83, in com.  
 Mohawk, prop., burned Buffalo, '75.  
 Mohawk, prop., 2,357 g. t., b. '93, Wyandotte, in com.  
 Mohawk Bell, stcb., 97 g. t., b. '66, Cincinnati, passed out, '91.  
 Mohegan, brig, 450 t., lost L. Hur., '70.  
 Mohegan, prop., 1,216 g. t., b. '94, Marine City, in com.  
 Moiles, Annie, tug, 72 g. t., b. '67, Saginaw, in com.  
 Moira, Can. gunboat, 20 guns, b. Kingston, '12, broken up.  
 Moira, Can. prop., sunk L. Ont., '62.  
 Mojave, bark, foundered L. Mich., '64, 10 lives lost.  
 Mollie, schr., 83 g. t., b. '74, Fairport, O., passed out, '97.  
 Mollie L., sty., 23 g. t., b. '92, Ludington, in com.  
 Mollison, Gilbert, schr., 305 t., b. '71, lost with all hands, L. Sup., '73.  
 Mona, scow, 50 t., b. Black River, O.  
 Mona, schr., wrecked L. Hur., '87.  
 Mona, Can. tug, 44 n. t., b. '90, Montreal, in com.  
 Mona, sly., 5 g. t., b. '92, in com.  
 Monarch, scow, lost near Erie, '35.  
 Monarch, Can. stmr., 400 t., in com., '56.  
 Monarch, stmr., wrecked near Toronto, '56.  
 Monarch, schr., lost near Sandusky, '62, 6 lives lost.  
 Monarch, tug, 147 g. t., b. '89, West Bay City, in com.  
 Monarch, Can. prop., 1,252 n. t., b. '90, Sarnia, in com.  
 Monarch, sly., 6 g. t., b. '91, Cleveland, in com.  
 Monarque, Can. tug, 170 n. t., b. '53, Sorel, in com., formerly America.  
 Moneka, schr., 85 g. t., b. '68, Essex, N. Y., in com.  
 Monguagon, schr., 301 g. t., b. '74, Trenton, Mich., in com.  
 Monguagon, schr., sunk Milwaukee, '88.  
 Monitor, schr., 314 g. t., b. '62, Conneaut, in com.  
 Monitor, tug, 37 g. t., b. '62, Chicago, in com.  
 Monitor, schr., 307 g. t., b. '62, Sheboygan, wrecked Manitou, '83, in com.  
 Monitor, schr., 105 g. t., b. '62, Black River, O., in com.  
 Monitor, schr., 392 t., b. Detroit, '62.  
 Monitor, schr., 47 g. t., b. '63, Galoo Island, N. Y., in com.  
 Monitor, schr., 323 t., b. '64, wrecked L. Mich., '83.  
 Monitor, tug, 40 t., burned Muskegon, '65.  
 Monitor, Can. prop., 333 g. t., b. '67, Aylmer, in com.  
 Monitor, tug, 128 g. t., b. '70, Detroit, passed out, '91.  
 Monitor, tug, sunk Muskegon, '73.  
 Monitor, 105 t., b. Detroit, '75.  
 Monitor, tug, 15 g. t., b. '82, Huron, in com.  
 Monitor, prop., sunk off Milwaukee, '90.  
 Monitor, Can. schr., 37 n. t., in com.  
 Monk, John E., tug, 36 g. t., b. '87, Sandusky, in com.  
 Monohansett, prop., 572 g. t., formerly Ira H. Owen, b. '72, Gibraltar, in com.  
 Monroe, stmr., 341 t., b. Monroe, '34, went into decay.  
 Monroe, schr., b. Clayton, L. Ont., before '52.  
 Monroe, C. J. G., Can. tug, 50 n. t., b. Merriton, '76, burned L. Erie, '92.  
 Monson, schr., sunk, Port Hope, '51.

- Monson, Thomas, tug, 25 g. t., b. '88, Lorain, in com.  
 Monsoon, schr., 201 t., b. Milan, sunk, Chicago, '81.  
 Montana, schr., 346 g. t., b. '64, Clayton, in com.  
 Montana, prop., 1,535 g. t., b. '72, Port Huron, in com.  
 Montauk, schr., total wreck, L. Mich., '82.  
 Montauk, stcb., 92 g. t., b. '75, Lockport, Ill., in com.  
 Mont Blanc, schr., 288 g. t., b. '67, Clayton, in com.  
 Montcalm, English vessel on L. Ont., 1760.  
 Montcalm, schr., 297 g. t., b. '67, Clayton, wrecked L. Erie, '91.  
 Montcalm, bge., 193 g. t., b. '79, in com.  
 Monteagle, schr., 296 t., total loss, '69.  
 Monteagle, prop., 1,273 g. t., b. '84, Buffalo, in com.  
 Monteith, Wm., brig., 262 t., b. Buffalo, '47, wrecked Fairport, '54.  
 Monterey, schr., 308 g. t., b. '66, Detroit, in com.  
 Montezuma, prop., b. Buffalo, '48.  
 Montezuma, schr., b. Cape Vincent, before '53, sunk by col., L. Hur., '71.  
 Montgomery, schr., b. Ohio City, '47, wrecked, L. Ont., '56.  
 Montgomery, prop., 879 t., in com., '59, burned Point Edward, '78.  
 Montgomery, schr., 709 g. t., b. '56, Newport, Mich., in com.  
 Montgomery, schr., 101 g. t., b. '89, Champlain, in com.  
 Monticello, prop., b. Fairport, '47, wrecked, L. Sup., '51.  
 Monticello, schr., 316 g. t., b. '70, Detroit, in com.  
 Montmorenci, Can. tug, 20 n. t., b. '89, Montmorenci, in com.  
 Montmorency, schr., 298 g. t., b. '66, Clayton, N. Y., in com.  
 Montpelier, schr., 290 g. t., b. '66, Clayton, in com.  
 Montreal, Brit. ship, 637 t., L. Ont., '14, formerly Wolfe, 25 guns.  
 Montreal, Can. stmr., 300 g. t., b. Montreal, '55, burned, St. Lawrence r., '57, 264 lives lost.  
 Montreal, Can. stmr., 753 n. t., b. '60, Montreal, in com.  
 Montreal, Can. bge., 356 n. t., b. '73, Montreal, in com.  
 Moon, Maud, sty., 13 g. t., b. '96, Buffalo, in com.  
 Moonlight, schr., 777 g. t., b. '74, Milwaukee, chartered ocean, '98.  
 Moore, Alex. B., schr., 1,018 g. t., later the Northwest.  
 Moore, B. J., stcb., 89 g. t., later the Old Rocks.  
 Moore, C. W., prop., 383 g. t., b. '81, Allegan, in com.  
 Moore, Daisy, sty., 11 g. t., b. '83, Lorain, in com.  
 Moore, Fanny, Can. prop., 5 g. t., b. '92, Dunnville, in com.  
 Moore, Frank, stmr., in com. '46.  
 Moore, Franklin, stmr., 300 t., b. Newport, '48, broken up, '62.  
 Moore, H. B., schr., 74 g. t., b. '68, Port Huron, lost '94, L. Mich.  
 Moore, H. D., schr., 143 g. t., b. '74, Saugatuck, in com.  
 Moore, John W., s. prop., 1,961 g. t., b. '90, Toledo, in com.  
 Moore, M. D., stmr., 105 g. t., b. '80, Oshkosh, in com.  
 Moore, Smith, prop., b. Cleveland, '80, in col. L. Sup., '90.  
 Moore, T. M., tug, 26 g. t., b. '80, Buffalo, in com.  
 Moore, T. M., tug, 25 g. t., b. '83, Buffalo, in com.  
 Moore, W. H., prop., 11 g. t., b. '93, Port Clinton, in com.  
 Moore, W. K., schr., 618 g. t., b. '94, Algonac, in com.  
 Moore, Wm., schr., wrecked L. Sup., '87.  
 Moore, Wm. A., tug, 212 g. t., b. '65, Detroit, passed out, '93.  
 Moran, John V., prop., 1,350 g. t., b. '88, West Bay City, in com.  
 Moran, M., stcb., 138 g. t., b. '85, Lockport, N. Y., in com.  
 Moravia, Can. slp., 63 g. t., b. '82, Kingston, in com.  
 Moravia, schr., 1,067 g. t., b. '88, West Bay City, in com.  
 Morfen, Dolly, Can. bge., 257 n. t., b. '81, Dresden, in com.  
 Morey, A. G., schr., 281 g. t., b. '61, Chicago, in com.  
 Morey, Charles P., tug, 30 g. t., b. '69, Buffalo, passed out, '95.  
 Morford, T. T., tug, 89 g. t., b. '84, Chicago, passed out.  
 Morford, T. T., tug, 99 t., b. '84, Chicago, total loss fr. boiler explosion '96, rebuilt '96, in com.  
 Morgan, Can. schr., ashore Oswego, '69.  
 Morgan, sty., 29 g. t., b. 91, Rome, N. Y., in com.  
 Morgan, Alfred, stcb., 137 g. t., b. '85, Lockport, passed out, '97.  
 Morgan, Chancey A., prop., 154 g. t., formerly Riverside, b. '72, Detroit, in com.  
 Morgan, C. A., tug, 92 g. t., b. '96, in com.  
 Morgan, E., schr., 310 t., b. '47, damaged L. Mich., '47.  
 Morgiana, schr., b. Clayton, L. Ont., before '52.  
 Morill, Alfred, Can. tug, 64 n. t., b. '85, Meaford, in com.  
 Morley, prop., 870 g. t., later the Grand Traverse.  
 Morley, Geo. W., prop., 1,045 g. t., b. '88, West Bay City, burned Chicago, '97.  
 Morley, J. J., tug, 30 g. t., b. '72, Sodus, in com.  
 Morley, W. B., prop., 1,748 g. t., b. '92, Marine City, in com.  
 Morley, Wm. B., prop., 1,847 g. t., later the Caledonia.  
 Morning, Can. schr., 150 g. t., b. '49, Lake Simcoe, burned.  
 Morning Glory, slpy., 6 g. t., b. '91, New Baltimore, Mich., in com.  
 Morning Lark, scow, sunk near Detroit, '75.  
 Morning Light, schr., damaged by col., '60, total loss, L. Mich., '82.  
 Morning Light, Can. scow, 14 g. t., b. '76, Anderson, in com.  
 Morning Star, schr., wrecked L. Erie, '29.  
 Morning Star, slp., sunk L. Erie, '49.  
 Morning Star, stmr., 1,141 t., b. Trenton, '62, sunk L. Erie, '68, by col., 32 lives lost.  
 Morning Star, schr., 205 g. t., b. '68, Sheboygan, in com.  
 Morning Star, schr., 8 g. t., b. '74, Banks, Mich., in com.  
 Morning Star, Can. schr., 47 g. t., b. '75, Port Credit, in com.  
 Morning Star, Can. prop., 5 g. t., b. '79, Smiths Falls, in com.  
 Morning Star, tug, 10 g. t., formerly Othello, b. '80, Meaford, Ont., in com.  
 Morning Star, Can. scow, 5 g. t., b. '94, Toronto, in com.  
 Morning Star, stmr., 86 g. t., b. '94, Allegan, passed out, '97.  
 Morrell, F., bark, b. '66.  
 Morrill, Lot M., U. S. rev. cut., b. Wilmington, Del., '89, transferred to lakes, '98.  
 Morris, David, bark, b. '57, Black River, O., wrecked Leamington, '73.  
 Morrison, J. C., Can. stmr., 150 g. t., b. '56, Lake Simcoe, burned, '57.  
 Morse, A. H., schr., in com., '65.  
 Morse, Annie F., schr., 32 g. t., b. '81, Grand Haven, in com.  
 Morse, Bill., tug, 11 g. t., b. '73, Buffalo, in com.  
 Morse, C. P., tug, 24 t., b. '69.  
 Morse, Fred A., schr., 592 g. t., b. '71, Vermilion, sunk by col., '92.  
 Morse, G. H., Can. schr., 162 g. t., b. '86, Ottawa, in com.



- Morse, H. and A., stcb., 133 g. t., b. '87, Lockport, in com.
- Morse, Jay C., tug, 99 g. t., b. '67, Buffalo, in com.
- Morse, Samuel F. B., s. prop., largest v. on lakes, 473 feet long, b. West Bay City, '98, in com.
- Morse, Wm., schr., 25 t., b. Chicago, '70.
- Morton, E. B., bark, passed out.
- Morton, Gov., sty., 14 g. t., formerly Australia, b. '93, Chicago, in com.
- Morton, H., 227 t., b. Detroit, '63.
- Morton, Hamilton, stmr., 144 t., b. Buffalo, '54.
- Morton, J. D., stmr., 400 t., b. Toledo, '48, burned St. Clair r., '63.
- Morton, J. D., bge., lost L. Erie, '73.
- Morton, Levi P., schr., 38 g. t., b. '89, Ogdensburg, passed out, '95.
- Morton, Mary, schr., 246 t., wrecked Long Point, '70.
- Morton, Minnie, tug, sunk Bois Blanc island, '81.
- Morton, Sylvia, schr., 179 t., b. '62, wrecked L. Hur., '87.
- Morwood R., Can. schr., 268 t., b. '56, wrecked L. Sup. '87.
- Moselle, schr., 245 g. t., b. '55, Buffalo, passed out, '97.
- Moselle, sty., 12 g. t., b. '92, in com.
- Moses and Elias, schr., wrecked Bass island, '51.
- Mosher, tug, 68 g. t., b. '90, Chicago, in com.
- Mosher, Alfred, tug, 37 g. t., b. '63, Chicago, burned Sturgeon Bay, '97.
- Mosher, Amaretta, schr., 300 g. t., b. '67, Ashtabula, in com.
- Moss, A. H., schr., 289 t., b. '63, wrecked L. Hur. '87.
- Moss, J. O., schr., wrecked L. Mich., '82.
- Moss, Truman, schr., 203 g. t., b. '67, Sandusky, in com.
- Mott, John T., schr., 325 g. t., b. '69, Oswego, in com.
- Mott, Richard, schr., 267 g. t., b. '54, Buffalo, in com.
- Mouche A Feu, Can. stmr., 33 n. t., b. '44, Montreal, in com.
- Moulton, A., schr., wrecked L. Ont., '62.
- Mount Vernon, schr., 59 g. t., b. '55 Black river, Mich., passed out, '94.
- Mt. Vernon, prop., sunk L. Erie from explosion, '60, 2 lives lost.
- Mountaineer, schr., stranded L. Erie, '45.
- Mountaineer, Can. schr., total wreck Georgian Bay, '64.
- Mountaineer, schr., total loss Tyrconnell, '82.
- Mountmagny, Can. stmr., 253 n. t., b. '82, Quebec, in com.
- Mowatt, James, schr., 523 g. t., b. '84, Milwaukee, in com.
- Mowat, Oliver, Can. schr., 341 n. t., b. '73, Mill Haven, in com.
- Mowery, A. J., schr., lost '94. L. Mich.
- Moyer, Myron W., sty., 13 g. t., b. '95, Buffalo, in com.
- Mueller, Minnie, schr., 199 g. t., b. '68, Fort Howard, in com.
- Muir, A., Can. bge., 371 n. t., b. '74, Port Dalhousie, in com.
- Muir, Margaret A., schr., 347 g. t., b. '67, Manitowoc, foundered L. Mich., '93.
- Muir, W. R., tug, 126 t., b. '63, boiler exploded St. Clair r., '67, killing 7 persons.
- Mulgrave, Can. prop., 485 g. t., b. '93, New Glasgow, in com.
- Mullen, Jennie, schr., 206 g. t., b. '66, Depere, in com.
- Mulvey, Annie, Can. schr., 295 g. t., b. '67, St. Catharines, in com.
- Mulvey, A., schr., 309 t., burned Toronto, '85.
- Mundy, E. V., tug, 12 g. t., b. '82, West Bay City, passed out '97.
- Munro, Alma, Can. prop., 580 t., b. Pt. Dalhousie, now the Can. prop., Melbourne.
- Munro, C. J. G., Can. prop., 46 g. t., b. '79, Thorold, in com.
- Munroe, Louise, schr., 8 g. t., b. '87, Sebawaing, in com.
- Munson, dredge, foundered L. Ont., '90.
- Munson, tug, 26 g. t., formerly Two Brothers, b. '78, Saugatuck, in com.
- Munson, Emma, Can. tug, 64 n. t., b. '73, Buffalo, in com.
- Munson, Isaac, schr., wrecked near Loosemore's Point, '88.
- Muriel, Can. schr., 192 g. t., b. '86, Montreal, in com.
- Murphy, J. L., Can. prop., 173 g. t., b. '88, Sand Point, in com.
- Murphy, Paddy, tug, burned off Dover Bay, '88.
- Murphy, Simon J., s. prop., 1,381 g. t., b. '95, West Bay City, chartered ocean service, '98.
- Murray, Geo., schr., in com., '73, damaged by col., '80.
- Murray, Grace, schr., 254 g. t., b. '56, Black River, O., passed out, '97.
- Murray, Henrietta P., Can. schr., 167 g. t., b. '67, Wellington Sq., in com.
- Murton, Ella, Can. schr., 288 n. t., b. '75, Mill Point, in com.
- Muscanungee, English vessel on Lake Erie in 1776.
- Music, tug, 320 g. t., b. '74, Saugatuck, passed out, '92.
- Music, tug, 93 g. t., b. '92, South Haven, in com.
- Muskaka, Can. bge., 486 n. t., b. '72, Chatham, in com.
- Muskegon, stmr., 662 g. t., b. '71, Manitowoc, in com.
- Muskegon, cfy., 1,938 t., formerly Shenango, No. 2, b. Toledo, '95, in com.
- Muskoka, Can. prop., 99 g. t., b. '81, Gravenhurst, in com.
- Mussey, E. H., schr., b. '53, Black River, O.
- Myers, bark, lost '52.
- Myers, Mary A., schr., 16 t., b. Buffalo, '47, capsized L. Erie, '48.
- Myers, Wm., stmr., b. '63.
- Myles, Can. prop., 828 n. t., b. '82, Hamilton, in com.
- Myosotis, schr., 317 t., b. '74, wrecked L. Mich., '87.
- Myra, schr., sunk L. Erie, '71.
- Myra, Can. tug, 111 n. t., b. '81, St. Catharines, in com.
- Myra, prop., 17 g. t., b. '84, Menominee, passed out, '91.
- Myrick, tug, passed out.
- Myrtle, tug, 25 g. t., b. '94, Buffalo, in com.
- Myrtle, schr., 207 g. t., b. '57, Milan, wrecked near Chicago, '94, 6 lives lost.
- Myrtle, tug, 18 g. t., b. '75, Lorain, passed out, '92.
- Myrtle, Can. prop., 9 g. t., b. '80, Brockville, in com.
- Myrtle, Can. prop., 27 g. t., b. '88, Fenelon Falls, in com.
- Mystery, sty., 14 g. t., b. '81, Providence, R. I., in com.
- Mystic, schr., 161 g. t., b. '66, Milan, passed out, '97.
- Mystic, sty., 74 g. t., b. '67, Mystic, Conn., in com.
- Mystic, schr., 16 g. t., b. '68, Cleveland, passed out, '97.
- Mystic, tug, 67 g. t., b. '70, Detroit, burned Ransom's Landing, '93.
- Mystic, tug, 63 g. t., b. '71, Sandusky, O., in com.
- Mystic, tug, wrecked Cockburn island, '78.
- Mystic, schr., 38 g. t., b. '79, Grand Haven, passed out, '91.
- Mystic Star, schr., 339 g. t., b. '73, Manitowoc, in com.
- Nabob, schr., 405 t., b. Manitowoc, '62, later the Waukesha.
- Nahant, prop., 1,204 g. t., b. '73, Detroit, burned Escanaba, '97.
- Naiad, schr., 311 g. t., b. '63, Huron, in com.
- Naiad, Can. sty., 15 g. t., b. '88, Kingston, in com.
- Naiad, Can. prop., 7 g. t., b. '90, Hull, in com.



- Naiad, Can. prop., 29 g. t., b. '90, Toronto, in com.  
 Nakick, schr., 9 g. t., b. '78, Bay City, passed out, '91.  
 Nancy, Can. schr., 94 t., on Lake Erie in 1800.  
 Nancy, slip., b. 1804, L. Ont., as the Niagara.  
 Nancy, schr., b. Black Rock, 1805.  
 Nancy, Can. slip., 38 t., on L. Erie before 1812, captured by Americans, '14.  
 Nancy, schr., 86 g. t., b. '68, Essex, N. Y., in com.  
 Nancy Bell, schr., sold '81.  
 Nancy Dell, schr., 106 g. t., b. '79, Port Sheldon, passed out, '97.  
 Naomi, bark, 435 t., wrecked near Manistee, '69, 5 lives lost.  
 Naomie, Can. schr., 196 g. t., b. '86, Montreal, in com.  
 Napier, Sir Charles, Can. brig, on lakes '54, damaged '70.  
 Napier, Sir Chas., Can. stmr., 200 t., in com. '56.  
 Napoleon, schr., 107 t., b. '28, on L. Ont., '34.  
 Napoleon, schr., 195 t., b. Sault Ste. Marie, '45, about 50 made pass. stmr., sunk L. Erie, '55.  
 Napoleon, schr., b. Cape Vincent, before '53.  
 Napoleon, prop., total wreck, Saugeen, L. Hur., '57.  
 Napoleon, schr., 108 t., b. '54, wrecked L. Mich., '87.  
 Narragansett, schr., sailed Toronto to Liverpool, '67.  
 Narragansett, schr., abandoned Hammond bay, '72.  
 Narragansett, schr., 316 g. t., b. '61, Cleveland, in com.  
 Nashotah, stcb., 94 g. t., b. '77, Peoria, Ill., in com.  
 Nashua, prop., 440 g. t., b. '68, Cleveland, lost '92, L. Hur., 14 lives lost.  
 Nasmith, T. H., Can. tug, 80 n.t., b. '74, Buffalo, in com.  
 Nasmyth, Janies, s. schr., 3,423 g. t., b. '96, West Bay City, in com.  
 Nassau, schr., 303 g. t., b. '72, Oswego, in com.  
 Native, schr., on L. Ont., '44.  
 Nation's Guest, schr., 30 t., on L. Mich., '36.  
 Nau, George B., 74 g. t., b. '96, Green Bay, in com.  
 Nau, Libbie, schr., 231 g. t., b. '67, Green Bay, in com.  
 Nau, Mary, schr., 136 t., b. '64, lost Grand Haven, '83.  
 Naughtin, Capt. G. W., schr., 309 g. t., formerly R. C. Crawford, b. '66, Algonac, in com.  
 Nautilus, schr., 25 t., b. Sandusky, '18, wrecked near Chicago, '54.  
 Nautilus, sty., 57 g. t., b. '86, Poughkeepsie, in com.  
 Nautilus, Can. prop., 12 n. t., b. '89, Huniberstone, in com.  
 Navagh, James, schr., passed out.  
 Navagh, John, tug, 19 g. t., b. '83, Buffalo, in com.  
 Navarino, prop., 550 t., b. Manitowoc, '70, destroyed in Chicago fire, '71.  
 Navigator, schr., 83 t., wrecked L. Mich., '54.  
 Neagel, schr., on L. Erie in 1800.  
 Nebraska, brig, sunk L. Mich., '56.  
 Nebraska, prop., 1,483 g. t., b. '67, Cleveland, in com.  
 Nebraska, Can. bge., 423 n. t., b. '74, Quebec, in com.  
 Neckeck, schr., capsized L. Ont., '50.  
 Necteus, stmr., b. '27, Black River, O.  
 Ned, Can. schr., 152 g. t., b. '81, Ottawa, in com.  
 Neelon, G. M., Can. schr., 334 g. t., b. '73, Port Dalhousie, in com.  
 Neelon, Harvey, Can. tug, 80 n. t., b. '75, Port Dalhousie, in com.  
 Neelon, Sylvester, Can. bge., 397 n. t., b. '74, St. Catharines, in com.  
 Neelon, Sylvester, Can. tug, 59 n. t., b. '69, Buffalo, in com.  
 Neff, A., prop., 128 t., wrecked Edward island, '86.  
 Neff, M. C., prop., 276 g. t., b. '88, Oshkosh, in com.  
 Neff, W. W., stmr., 69 g. t., b. '79, Oshkosh, in com.  
 Neff, S., prop., 129 g. t., b. '82, Oshkosh, in com.  
 Neff, Sidney, O., prop., formerly schr., 346, g. t., b. '90, Manitowoc, in com.  
 Negaunee, schr., 640 g. t., b. '67, Vermilion, O., in com.  
 Neil, Fanny, schr., 451 g. t., b. '70, Port Huron, in com.  
 Neilson, James B., s. prop., 2,234 g. t., formerly Washburn, b. '92, West Superior, in com.  
 Neilsson, Christine, schr., b. '71, wrecked Bailey's Harbor, '84.  
 Nellie, scow, b. '66, Black River, O.  
 Nellie, Can. sty., 7 g. t., b. '82, Kingston, in com.  
 Nellie, prop., 143 g. t., b. '82, Mt. Clemens, in com.  
 Nellie, prop., 21 g. t., b. '85, Grand Haven, in com.  
 Nellie, sty., 11 g. t., b. '84, Ogdensburg, passed out, '95.  
 Nellie and Annie, schr., 37 g. t., b. '72, Chicago, in com.  
 Nellie B., schy., 15 g. t., b. '88, Saginaw, in com.  
 Nellie May, Can. tug, 11 g. t., b. '84, Port Burwell, in com.  
 Nellie Teresa, schr., total wreck, L. Ont., '82.  
 Nelson, schr., 766 g. t., b. '66, Milwaukee, in com.  
 Nelson, Abe, tug, in com., '68.  
 Nelson, George, tug, 45 g. t., b. '86, Saugatuck, in com.  
 Nelson, O. M., schr., 167 g. t., b. '62, Sutton's Bay, in com.  
 Nelson, W. S., schr., lost L. Ont., '61.  
 Nemesis, Can. schr., 82 g. t., b. '68, Goderich, wrecked Bayfield, '83, in com.  
 Neosho, prop., 1,982 g. t., b. '88, Cleveland, in com.  
 Neptune, schr., 61 t., ashore Cleveland, '25.  
 Neptune, brig, b. '36, lost L. Mich., '39, 11 passengers drowned.  
 Neptune, schr., made from brig, '40.  
 Neptune, schr., b. Three Mile Bay, L. Ont., '43.  
 Neptune, prop., b. Buffalo, '56.  
 Neptune, stcb., 130 g. t., b. '80, Ithaca, in com.  
 Neshoto, schr., foundered L. Hur., '72, 5 lives lost.  
 Neshoto, prop., 2,255 g. t., b. '89, Cleveland, in com.  
 Nester, George, schr., 790 g. t., b. '87, Baraga, Mich., in com.  
 Nestorian, stmr., in com., '68.  
 Netly, Brit. brig, 216 t., 16 guns, L. Ont., '14, formerly the Sidney Smith.  
 Nettie, sty., 11 g. t., b. '84, Ogdensburg, in com.  
 Neva, Can. schr., 148 g. t., b. '81, Montreal, in com.  
 Neva, sly., 17 g. t., b. '93, in com.  
 Nevada, schr., 390 t., b. Oswego, '67.  
 Nevada, schr., 303 t., ashore Fairport, '86.  
 Nevada, prop., 661 t., foundered L. Mich., '90.  
 Navarch, sty., 17 g. t., b. '89, Boston, passed out, '97.  
 Neville, Can. schr., 158 g. t., b. '80, East Templeton, in com.  
 Neville, Geo., scow, 84 t., total loss, '69.  
 Newaga, prop., 906 g. t., b. '90, Marine City, in com.  
 Newark, schr., lost L. Hur., '64.  
 Newbold, A. W., schr., wrecked Buffalo, '52.  
 Newboro, Can. bge., 230 g. t., b. '62, Bedford Mills, in com.  
 New Brunswick, bark, sunk L. Erie, '58, 5 lives lost.  
 Newberry, Oliver, stmr., 170 t., b. Palmer, Mich., '33, broken up.  
 Newburgh, prop., 1,209 g. t., b. '71, Buffalo, passed out, '92.  
 Newburyport, stmr., 75 t., b. Erie, '29, wrecked Chicago, about '36.  
 New Castle, Can. schr., 75 g. t., b. '61, Kingston, in com.  
 New Church, schr., 117 t., wrecked Two Rivers, '85.  
 New Connecticut, schr., b. Conneaut, wrecked L. Erie, '33.  
 New Dominion, schr., 271 t., b. Hamilton, '67.  
 New Dominion, Can. schr., 164 g. t., b. '67, Quebec, in com.  
 New Dominion, Can. bge., 249 n. t., b. '68, Port Rowan, in com.

- New Dominion, schr., lost L. Erie, '84, 6 lives lost.
- New England, stmr., 416 t., b. Black Rock, '37, went into decay.
- New Era, Can. stmr., 300 g. t., b. '49, Toronto, sunk St. Lawrence r., '56.
- New Era, prop., 220 g. t., b. '67, Eastmanville, Mich., passed out, '97.
- Newfield, Can. prop., 785 g. t., b. '71, Sunderland, in com.
- Newhall, D., schr., sunk Buffalo, '57.
- Newhall, Dan, schr., damaged, '72.
- New Hampshire, schr., 99 t., b. Kalamazoo, '46, lost L. Hur., '85.
- New Hampshire, prop., 280 t., b. Cleveland, '51.
- New Haven, schr., ashore, '52.
- Newhouse, J. S., schr., 381 t., b. Cleveland, '56, burned Grand Traverse bay, '71, raised and re-built.
- Newhouse, Oscar, schr., 70 g. t., b. '76, Sheboygan, in com.
- New Island Wanderer, prop., 195 g. t., b. '88, Buffalo, in com.
- Newland, J. B., schr., 157 g. t., b. '70, Manitowoc, in com.
- New Lisbon, schr., capsized off Fairport, '71.
- Newman, G. L., schr., b. '55, Black River, O.
- New Orleans, a three-deck ship of war to carry 110 guns, built at Sacket's Harbor, '14, by the U. S. Gov., 3,200 t., never launched because of close of war, for many years a curiosity.
- New Orleans, stmr., 610 t., b. Detroit, '44, formerly Vermilion, lost at Thunder Bay, '53.
- New Orleans, prop., 1,457 g. t., b. '85, Marine City, in com.
- New Boy, prop., 199 g. t., b. '89, West Bay City, in com.
- News Boy, Can. schr., 52 n. t., b. '85, Bronte, in com.
- Newsboy, schr., 413 g. t., b. '62, East Saginaw, dismantled L. Mich., '91.
- Newsboy, tug, 15 g. t., later the Leo Lennox.
- New Westminster, prop., 34 g. t., b. '90, Chaumont, N. Y., in com.
- New York, stmr., 325 t., b. Black Rock, '33, went into decay.
- New York, schr., 80 t., b. Point Peninsula, L. Ont., '32, wrecked L. Ont., '39, 6 lives lost.
- New York, schr., wrecked Port Burwell, '43.
- New York, prop., 150 t., b. Oswego, '43.
- New York, stmr., 994 t., b. Clayton, '51, went out of commission.
- New York, prop., about 600 t., b. Buffalo, '56.
- New York, schr., wrecked Oswego, '73.
- New York, prop., 1,921 g. t., b. '79, Buffalo, in com.
- New York, stmr., 326 g. t., b. '87, in com.
- New York, sty., b. '93, Chicago, in com.
- New York Recorder, stcb., 121 g. t., b. '92, Lockport, in com.
- New York World, stcb., 143 g. t., b. '88, Lockport, in com.
- Ney, Marshal, schr., 75 t., b. Marine City, '30, sunk Cleveland, '46, raised, sunk, '47.
- N. G., scow, lost Pigeon Bay, '66.
- Nia, sty., 46 g. t., b. '89, Oshkosh, in com.
- Niagara, small slp., b. 1804, Cayuga Creek, by U. S. Gov., sold in 1806 and re-named the Nancy.
- Niagara, U. S. brig, 480 t., 20 guns, b. Erie, '13, in battle L. Erie, used as U. S. receiving ship many years, then sunk.
- Niagara, Brit. ship, L. Ont., '14, formerly Royal George, 510 t., 22 guns.
- Niagara, stmr., 156 t., b. '24, broken up by col., near Huron, '37.
- Niagara, Can. stmr., 400 t., made from schr. Union, Brockville, about '25, made the Sovereign, '40, broken up.
- Niagara, stmr., 180 t., b. Black Rock '25, broken up.
- Niagara, stmr., 473 t., b. Clayton, L. Ont., '44.
- Niagara, stmr., 1,084 t., b. Buffalo, '45, burned L. Mich., '56, 60 lives lost.
- Niagara, tug, b. '49, sunk Cleveland, '68.
- Niagara, bge., 295 t., total loss, '69.
- Niagara, Can. scow, 161 g. t., b. '66, Wellandport, in com.
- Niagara, tug, 276 g. t., b. '72, Detroit, in com.
- Niagara, schr., 726 t., b. '73, sunk L. Sup., '87, with entire crew.
- Niagara, Can. schr., 220 g. t., b. '73, Picton, in com.
- Niagara, Can. prop., 509 n. t., b. '75, St. Catharines, in com.
- Niagara, prop., 99 g. t., b. '78, Chicago, in com.
- Niagara, tug, 213 g. t., b. '82, Buffalo, in com.
- Niagara, s. prop., 1,951 g. t., b. '97, West Bay City, in com.
- Nicaragua, schr., sunk near Chicago, '64, raised, '75.
- Nicaragua, prop., 1,201 g. t., b. '94, West Bay City, in com.
- Nice, John, tug, 14 g. t., later the Grace A. Ruelle.
- Nicholas, I. W., prop., 2,624 g. t., b. '94, Cleveland, in com.
- Nicholas, J. W., schr., 418 t., b. Vermilion, '62, sunk Pigeon bay, '73.
- Nicholls, J. G., Can. tug, 136 n. t., b. '88, Goderich, in com.
- Nichols, A. P., schr. 299 g. t., b. '61, Madison Dock, O., wrecked L. Mich., '92.
- Nichols, J. G., prop., 111 g. t., b. '89, Fort Howard, passed out, '94.
- Nicholson, E. A., schr., 721 g. t., b. '73, Port Huron, lost L. Mich., '95.
- Nicol, prop., sunk near Montreal, '56.
- Nicol, John M., prop., 2,126 g. t., b. '89, West Bay City, in com.
- Nicolet, Can. stmr., 76 n. t., b. '75, Sorel, in com.
- Nicollet, prop., 167 g. t., b. '86, Nicollet, passed out, '95.
- Nielson, Emma L., schr., 90 g. t., b. '83, Manitowoc, in com.
- Nielson, Fred, tug, 44 g. t., formerly Messenger, b. '68, Toledo, passed out, '97.
- Nielson, Lena M., schr., 86 g. t., b. '96, Ludington, wrecked L. Mich., '98.
- Nightingale, schr., 423 t., b. Conneaut, wrecked L. Hur., '69.
- Nightingale, prop., 56 g. t., b. '90, Clayton, in com.
- Niko, prop., 1,039 g. t., b. '89, Trenton, Mich., in com.
- Nile, stmr., 600 t., b. Detroit, '43, wrecked Milwaukee, '52.
- Nile, schr., 250 t., b. Ohio City, '47.
- Nile, prop., total wreck by boiler explosion at Detroit, '64, 6 lives lost.
- Nile, Can. schr., 107 n. t., b. '70, Battersea, in com.
- Nile, Can. schr., 151 g. t., b. '81, Montreal, in com.
- Niles, schr., ashore L. Mich., '45.
- Nimick, Alex, prop., 1,968 g. t., b. '90, West Bay City, in com.
- Nimrod, scow, b. '57, Black River, Ohio.
- Nims, C. K., bark, 700 t., b. Cleveland, '66, sunk off Bar Point, '81.
- Nina, caravel fr. Spain to World's Fair, '93.
- Nina, schr., sunk L. Hur., '75.
- Nina, Can. tug, 89 n. t., b. '89, Rondeau, in com.
- Nina, schr., 14 g. t., b. '93, Milwaukee, in com.
- Nina, Can. prop., 35 n. t., b. '94, Montreal, in com.
- Nipigon, prop., 626 g. t., b. '83, St. Clair, in com.

- Nipissing, Can. stbge., 275 g. t., b. '87, Gravenhurst, in com.
- Nirvana, schr., 611 g. t., b. '90, West Bay City, in com.
- No Cross, Can. prop., 20 g. t., b. '87, Tamarac island, in com.
- No. 1 (car-ferry), bge., 1,544 g. t., b. '95, West Bay City, in com.
- No. 2 (car-ferry), bge., 1,548 g. t., b. '95, West Bay City, in com.
- No. 3 (car-ferry), bge., 1,581 g. t., b. '96, Toledo, in com.
- No. 4 (car-ferry), bge., 1,581 g. t., b. '96, Toledo, in com.
- No. 4, scw., 128 g. t., b. '98, in com.
- No. 6, scw., 152 g. t., b. '98, in com.
- No. 12, sty., 26 g. t., later the Gryphon.
- No. 37, Can. schr., 218 g. t., b. '74, Yamaska, in com.
- No. 38, Can. schr., 218 g. t., b. '74, Yamaska, in com.
- Nos. 1 and 1, schr., b. Buffalo, '57.
- Noble, B., schr., 66 g. t., b. '63, Essex, in com.
- Noble Grand, scow, in com., '55.
- Noble, S. L., schr., 110 t., b. Fairport, '46, stranded Clay Banks, '68.
- Noble, Robert, tug, 100 t., in com., '82, burned Green Bay, '88.
- Nokomis, Can. stbge., 25 g. t., b. '87, Morristown, in com.
- Nolan, T. L., schr., 113 g. t., b. '95, Delray, Mich., in com.
- Nomad, schr., 40 t., sunk off Presque Isle, '71.
- Nonpareil, schr., abandoned L. Hur. '66.
- Noque Bay, schr., 648 g. t., b. '72, Trenton, Mich., in com.
- Nora, schr., sunk near Sheboygan, '69 by col.
- Nora, slp., 5 g. t., b. '83, Chicago, in com.
- Nora, Can. tug, 17 n. t., b. '86, Hamilton, in com., formerly Dennis Bowen.
- Norcross, S. R., tug, 30 t., b. '69.
- Norcross, S. R., Can. tug, 23 n. t., b. '87, Tamarack Island, in com.
- Norfolk, schr., wrecked L. Ont., '54, 2 lives lost.
- Norma, bge., burned Sandusky, '90.
- Norma, prop., 111 g. t., b. '84, Sandusky, in com.
- Norma, prop., 14 g. t., b. '90, Buffalo, in com.
- Norman, schr., 251 g. t., b. '48, Sacket's Harbor, in com.
- Norman, bark, lost near Simcoe, '56.
- Norman, prop., 389 t., b. '64, wrecked L. Mich., '83.
- Norman, schr., 19 g. t., b. '67, Depere, in com.
- Norman, schr., 20 g. t., b. '83, Milwaukee, in com.
- Norman, s. prop., 2,304 g. t., b. '90, Cleveland, sunk L. Hur. by col., '95, 3 lives lost.
- Normandie, prop., 567 g. t., b. '94, Green Bay, in com.
- Norris, schr., 251 t., b. '56, wrecked L. Hur., '87.
- Norris, Alice B., schr., 628 g. t., b. '72, Milwaukee, in com.
- Norris, G. G., schr., in com., '61.
- Norris, James, Can. tug, '63, n. t., b. '68, Port Dalhousie, in com.
- North, prop., burned St. Clair r., '67.
- North, Can. fry., 281 n. t., b. '86, Levis, in com.
- North America, stmr., 362 t., b. Conneaut, O., '33, burned Conneaut, '47.
- North America, Can. stmr., b. Montreal, '41.
- North America, prop., burned St. Clair flats, '58.
- North, C., schr., 108 g. t., b. '54, Sheboygan, passed out, '95.
- North Cape, schr., ashore, '55.
- North Cape, schr., 386 g. t., b. '73, Depere, passed out, '96.
- North Carolina, brig, 141 t., b. '34, Black River, O., capsized L. Mich., '37, several lives lost.
- North King, Can. stmr., 422 n. t., b. '68, Montreal, in com., formerly Norseman.
- North Land, prop., 4,244 g. t., b. '95, Cleveland, in com.
- North Muskegon, tug, 35 g. t., b. '81, Muskegon, in com.
- North River, Can. stbge., 14 g. t., b. '93, Ostabining Lake, in com.
- North Star, bark, b. Cleveland, '53, sunk '56.
- North Star, stmr., 1,106 t., b. Cleveland, '54, burned '62 at Cleveland.
- North Star, schr., 148 g. t., b. '56, Port Dover, Ont., passed out, '93.
- North Star, stmr., 300 t., b. Green Bay, '71.
- North Star, schr., total loss L. Mich., '71.
- North Star, tug, 44 g. t., b. '71, Oconto, Ont., in com.
- North Star, sty., 23 g. t., b. '72, Buffalo, in com.
- North Star, schr., 215 t., sunk L. Ont., '86.
- North Star, s. prop., 2,476 g. t., b. '89, Cleveland, in com.
- North Star, schr., 6 g. t., b. '93, Menominee, in com.
- Northampton, schr., 246 t., passed out.
- Northerly Star, schr., sunk L. Hur., '57.
- Northern Belle, damaged by col., '63.
- Northern Belle, Can. prop., 290 n. t., b. '75, Marine City, burned L. Hur., '98.
- Northern Belle, schr., sunk by col. near Skillagalee, '73.
- Northern Belle, schr., 11 g. t., b. '77, La Pointe, Wis., passed out, '95.
- Northern Belle, prop., 40 g. t., b. '78, Ionia, in com.
- Northern Indiana, stmr., 1,740 t., b. Buffalo, '52, burned L. Erie '56, 56 lives lost.
- Northern King, prop., 2,476 g. t., b. '88, Cleveland, in com.
- Northern Light, schr., b. Clayton, L. Ont., before '52.
- Northern Light, bark, wrecked Port Burwell, '62.
- Northern Light, prop., 857 t., b. Cleveland, '58.
- Northern Light, schr., 32 g. t., b. '71, Fremont, passed out, '92.
- Northern Light, Can. prop., 393 g. t., b. '76, Levis, in com.
- Northern Light, prop., 2,476 g. t., b. '88, Cleveland, in com.
- Northern Michigan, prop., 359 t., b. Buffalo, '53.
- Northern Queen, stmr., wrecked Manistique r., '81.
- Northern Queen, prop., 2,476 g. t., b. '89, Cleveland, in com.
- Northern Star, schr., sunk by col. L. Hur., '57.
- Northern Wave, prop., 2,476 g. t., b. '89, Cleveland, in com.
- Northerner, stmr., 905 t., b. Oswego, '50.
- Northerner, stmr., 514 t., b. Cleveland, '51, sunk by col. on L. Hur., '56, 12 lives lost.
- Northerner, bark, wrecked L. Erie, '61.
- Northerner, prop., 1,391 g. t., b. '71, Cleveland, passed out, '93.
- Northerner, Can. stbge., 99 g. t., b. '77, Port Sydney, in com.
- Northerner, prop., 1,038 t., burned Kelley's island, '86.
- Northwest, bark, 628 t., b. Cleveland, '62.
- Northwest, schr., 1,017 g. t., formerly Alex B. Moore, b. '73, Bangor, Mich., in com.
- Northwest, schr., 7 g. t., b. '79, Sand Beach, Mich., passed out, '95.
- Northwest, schr., 21 g. t., b. '83, White Rock, Mich., passed out, '95.
- Northwest, schr., 1,550 t., lost, '88.
- North West, stmr., 1,100 t., b. Manitowoc, '67, now the Greyhound.
- North West, Can. schr., 64 n. t., b. '68, Port Rowan, in com.
- North West, prop., 4,244 g. t., b. '94, Cleveland, in com.
- North Wind, prop., 2,476 g. t., b. '88, Cleveland, in com.



- Norseman, prop., 660 g. t., formerly Enterprise, b. '64, St. Catharines, Ont., in com.
- Norseman, Can. stmr., 422 g. t., b. '68, Montreal, now the North King.
- Nor on, David Z., schr., 3,251 g. t., b. Cleveland, '98, in com.
- Norton, H., schr., ashore L. Mich., '42.
- Norton, Henry, schr., 151 t., wrecked Pilot island, '63.
- Norton, Kate, schr., foundered L. Erie, '63, 8 lives lost.
- Norwalk, prop., 1,007 g. t., b. '91, Mt. Clemens, in com.
- Norway, schr., lost Muskegon, '70.
- Norway, Can. bge., 382 n. t., b. '73, Garden Island, in com., formerly schr.
- Norway, schr., 393 g. t., b. '73, Au Sable, passed out, '95.
- Norway, schr., foundered near Belleville, '80.
- Norwegian, schr., lost near Oswego, '70.
- Nosbonsing, Can. stbge., 25 g. t., b. '84, Lake Nosbonsing, in com.
- Now Then, schr., 7 g. t., b. '94, Sturgeon Bay, in com.
- Notter, D. H., Can. tug, 24 n. t., b. '81, Buffalo, in com.
- Notter, Geo., tug, burned L. Mich., '61.
- Notter, T. W., tug, sunk Cleveland, '66.
- Novelty, Can. stmr., 150 g. t., b. '52, Kingston.
- Novelty, Can. prop., 65 g. t., b. '61, Ball Lake, in com.
- Novelty, stcb., 106 g. t., b. '69, Chicago, in com.
- Noyes, J. B., bge., 386 g. t., b. '92, in com.
- Noves, John R., schr., 315 g. t., b. '72, Algonac, in com.
- N. P., tug, 42 g. t., b. '83, Duluth, in com.
- Nucleus, schr., ashore Sandusky, '27.
- Nucleus, bark, 375 t., sunk Marquette, '69.
- Nyack, prop., 1,257 g. t., b. '78, Buffalo, in com.
- Nyanza, prop., 1,889 g. t., b. '90, Bay City, in com.
- Nydia, sty., 71 g. t., b. '90, Brooklyn, in com.
- Nymph, sty., 47 g. t., b. '94, Detroit, in com.
- Oades, John, schr., sunk Muskegon, '58.
- Oades, John, schr., 198 g. t., b. '64, Clayton.
- Oades, John, prop., 1,454 g. t., b. '90, Detroit, in com.
- Oades, Walter H., schr., 500 t., b. Detroit, '69, suffered many disasters and finally sank by col. in L. Erie, '88.
- Oak Hill, schr., ashore, '60.
- Oak Leaf, schr., 395 g. t., b. '66, Cleveland, in com.
- Oak Leaf, schr., 93 g. t., b. '95, Gibraltar, in com.
- Oakland, schr., formerly Can. schr. Elgin.
- Oakland, prop., 311 t., built Erie, '67, sunk Ashtabula, '78, sunk L. Erie, '83.
- Oak Orchard, schr., 24 g. t., b. '87, Pensaukee, in com.
- Oaks, scow, capsized L. Erie, '55.
- Oakville, Can. stmr., b. Oakville, '34.
- O'Brien, tug, boiler exploded, Niagara r., '66.
- O'Brien, Julian V., tug, 57 g. t., b. '88, Buffalo, in com.
- Ocean, brig, b. Three Mile Bay, L. Ont., '48.
- Ocean, Can. brig, lost L. Erie, '60.
- Ocean, brig, 240 t., wrecked L. Hur., '65.
- Ocean, brig, sunk L. Ont., '72.
- Ocean, bge., lost Tawas bay, '73.
- Ocean, stmr., 900 t., b. Newport, '50, made a barge in '67.
- Ocean, stmr., 1,057 t., b. '55, engine placed in Morning Star, '62.
- Ocean, Can. prop., 358 n. t., b. '72, Port Dalhousie, in com.
- Ocean, Can. prop., 684 g. t., b. St. Catharines, '72, sunk L. Ont., '94.
- Ocean, slp., 15 t., b. Detroit, '43, added L. Sup. fleet, '45.
- Ocean, schr., 121 t., b. Cleveland, '43, burned Port Dalhousie, '54.
- Ocean, schr., lost L. Mich., '44.
- Ocean Eagle, brig., wrecked, Sheboygan, '62.
- Ocean Wave, Can. stmr., b. Montreal, '51, burned L. Ont., '53, 23 lives lost.
- Ocean Wave, bark, wrecked, Green bay, '66.
- Ocean Wave, Can. schr., 96 g. t., b. '68, Pictou, in com.
- Ocean Wave, scow, 308 t., lost L. Mich., '69.
- Oceana, schr., 60 t., b. Silver Creek, '43.
- Oceanica, prop., 1,490 g. t., b. '81, West Bay City, in com.
- Ochs, Jay, tug, 18 g. t., b. '88, Huron, in com.
- Oclemena, sty., 149 g. t., b. '90, Buffalo, in com.
- O'Connell, Dan, scow schr., ashore Kelley's island, '49.
- Oconto, prop., 447 t., sunk St. Lawrence, '86.
- Oconto, prop., 61 g. t., b. '80, Oconto, passed out, '94.
- Octavia, schr., b. Saugatuck, about '40, ashore Grand River, Ont., '55.
- Octavia, Can. schr., '94, g. t., b. '66, Colborne Harbor, in com.
- Octavia, schr., abandoned Kewaunee, '74.
- Oddfellow, Can. schr., 72 g. t., b. '48, Oakville, in com.
- Odd Fellow, tug, 29 g. t., later the F. W. Gillett.
- Odd Fellow, stmr., wrecked near Gravelly bay, '41.
- Odd Fellow, brig, 225 t., b. Cleveland, '45, wrecked near Mackinaw, '54.
- Odd Fellow, prop., 250 t., b. Grand river, '46.
- Odd Fellow, schr., 99 t., b. Detroit, '52.
- Odd Fellow, schr., sunk Toronto, '56.
- Odd Fellow, brig, sunk by col. Sandusky, '72.
- Odd Fellow, schr., 124 g. t., b. '81, Washington Isle, Wis., lost L. Mich., '92.
- Odd Fellow, schr., 10 g. t., b. '88, Marquette, in com.
- Odd Fellow, tug, 22 g. t., b. '93, Grand Haven, in com.
- O'Delight, Jack, schr., 16 t., passed out.
- Oden, prop., 96 g. t., b. '90, Fond du Lac, in com.
- Odessa, Can. prop., 10 n. t., in com.
- Odin, schr., 120 g. t., b. '53, Milwaukee, passed out, '94.
- Ogarita, schr., 604 g. t., b. '64, Conneaut, in com.
- Ogden, schr., b. '57, Black River, O.
- Ogden, Martha, stmr., 49 t., b. '25, Sacket's Harbor, wrecked Stony Point, '32.
- Ogden, Wm. B., schr., 298 g. t., b. '57, Cleveland in com.
- Ogden, Wm. B., schr., sunk Goderich, '79, sunk Oscoda, '81.
- Ogdensburgh, prop., liner in '52, sunk L. Erie, by col. '64.
- Ogemaw, prop., 625 g. t., b. '81, St. Clair, sunk, '91, in com.
- Oggle, E. C., tug, 25 g. t., b. '74, Grand Haven, in com.
- Olga, schr., 308 g. t., b. '81, Manitowoc, in com.
- Oglebay, E. W., s. prop., 3,666 g. t., b. '96, West Bay City, in com.
- Ogontz, prop., ashore Marblehead, '55, converted into vessel, '60, wrecked Chicago, '62.
- Ogontz, tug, 165 g. t., b. '92, Chicago, Ill., in com.
- O'Gorman, Mary, schr., 125 t., damaged, '69, ashore Oswego, '83.
- Ohio, prop., 584 t., b. Black River, '48, exploded and sunk off Erie, '59, 2 lives lost.
- Ohio, prop., 209 g. t., b. '90, Toledo, in com.
- Ohio, prop., 1,101 g. t., b. '75, Huron, sunk by col. L. Hur., '94.
- Ohio, schr., 127 t., b. Cleveland, '41, lost off Dunkirk, '56, 1 life lost.
- Ohio, schr., 60 t., b. Cleveland, '10, sold to U. S. Gov., '12, one of Perry's fleet but not in battle Lake Erie, captured by British, Fort Erie, '14.
- Ohio, slp., ashore near Buffalo, '26.
- Ohio, stmr., 187 t., b. Sandusky, '30, burned Toledo, '42.
- Ojeda, tug, 9 g. t., b. '93, Gladstone, in com.
- Okoboji, prop., 15 g. t., b. '93, Chicago, in com.

- Oksen, Ida A., schr., 201 g. t., b. '88, Fort Howard, in com.
- Old Concord, prop., 457 t., b. Newport, '55, damaged Point Pelee, '59.
- Old Concord, bge., 550 t., sunk off Lion's Head, '88.
- Old Hundred, scow, in com, '68.
- Old Jack, tug, in com, '66.
- Old Rocks, stcb., 88 g. t., formerly B. J. Moore, b. '77, Chicago, passed out, '96.
- Olean, prop., 609 t., b. Cleveland, '56, passed out.
- Oleander, brig., in com., '52.
- Olive, Can. prop., 105 n. t., b. '75, Smith's Falls, in com.
- Olive, stmr., burned and sunk Toledo, '84.
- Olive, 223 g. t., b. Detroit, '58.
- Olive Branch, slp., wrecked Grand river, '31.
- Olive Branch, scow, first ferry boat at Detroit, '25 to '50.
- Olive Branch, stmr., 89 t., b. Detroit, '58, broken up.
- Olive Branch, schr., 14 t., b. '66.
- Olive Branch, slp., 21 g. t., b. '85, Clayton, in com.
- Olive Jeanette, schr., 1,271 g. t., b. '90, West Bay City, passed out, '97.
- Oliver, Major, brig, 150 g. t., b. '37, Perrysburg, O., wrecked L. Mich., '45.
- Olivette, sty., b. Racine, '98.
- Ollie, sty., 14 g. t., b. '85, Brooklyn, in com.
- Olivia, Can. schr., 122 g. t., b. '53, Bronte, in com.
- Olivia, schr., sunk L. Ont., '71.
- Olson, Ole, schr., lost L. Mich., '87.
- Olwill, Margaret, prop., 554 g. t., b. '87, Cleveland, in com.
- Olympia, Can. schr., 23 g. t., b. '79, Bronte, in com.
- Olympia, prop., 2,065 g. t., b. '89, Cleveland, in com.
- Omah, schr., wrecked Cleveland, '54, 3 lives lost.
- Omaha, prop., 1,231 g. t., b. '87, Milwaukee, in com.
- Omar Pasha, prop., 343 t., b. Buffalo, '54, burned Muskegon, '69.
- Omega, tug, 16 g. t., b. '82, Chicago, in com.
- Ometa, Can. yacht, 22 n. t., b. Brockville, in com.
- Onaganoh, Can. tug; 19 g. t., b. '87, Kingston, in com.
- Onaping, Can. tug, 174 n. t., b. '84, Detroit, in com.
- 101, s. bge., 456 g. t., b. '88, Duluth, in com.
- 104, s. bge., 1,295 g. t., b. '90, Duluth, sunk L. Erie, '98.
- 105, s. bge., 1,295 g. t., b. '90, Duluth, in com.
- 107, s. bge., 1,295 g. t., b. '90, Duluth, in com.
- 109, s. bge., 1,228 g. t., b. '91, West Superior, in com.
- 110, s. bge., 1,228 g. t., b. '91, West Superior, in com.
- 111, s. bge., 1,228 g. t., b. '91, West Superior, in com.
- 115, s. bge., 1,169 g. t., b. '91, West Superior, in com.
- 116, s. bge., 1,169 g. t., b. '91, West Superior, in com.
- 117, s. bge., 1,311 g. t., b. '91, West Superior, in com.
- 118, s. bge., 1,311 g. t., b. '91, West Superior, in com.
- 126, s. bge., 1,128 g. t., b. '92, West Superior, in com.
- 127, s. bge., 1,128 g. t., b. '92, West Superior, in com.
- 129, s. bge., 1,311 g. t., b. '93, West Superior, in com.
- 130, s. bge., 1,311 g. t., b. '93, West Superior, in com.
- 131, s. bge., 1,311 g. t., b. '93, West Superior, in com.
- 132, s. bge., 1,311 g. t., b. '93, West Superior, in com.
- 133, s. bge., 1,311 g. t., b. '93, West Superior, in com.
- 134, s. bge., 1,311 g. t., b. '93, West Superior, in com.
- 137, s. bge., 2,481 g. t., b. '96, West Superior, in com.
- Oneida, Can. bge., now the Can. bge. Maggie.
- Oneida, brig, 243 t., b. by U. S. Gov., Oswego, 1809, a s. rev. cut., armed 16 guns, 1812.
- Oneida, stmr., 227 t., b. Oswego, '36, changed to sail, '45, lost L. Erie.
- Oneida, prop., 345 t., b. Cleveland, '46, capsized L. Erie, '52, 19 lives lost.
- Oneida, schr., 150 t., b. Clayton, wrecked near Chicago, '48.
- Oneida, sty., 15 g. t., b. '93, Chicago, in com.
- Oneida, prop., 887 g. t., b. '62, Buffalo, burned L. Erie, '93.
- Oneida, schr., 201 g. t., b. '57, Ashtabula, in com.
- Oneida, English war vessel of 18 guns, on Lake Ontario in 1760.
- Oneida, prop., 1,070 t., b. '62, sunk L. Ont., '83.
- Oneida, tug, 12 g. t., b. '71, Buffalo, in com.
- Oneida, tug, 22 g. t., b. '72, Buffalo, in com.
- O'Neil, John, schr., 616 g. t., b. '73, Cleveland, chartered ocean service, '98, wrecked Prince Edward Island, '98.
- O'Neil, Louis, schr., 522 t., b. '62, sunk by col. L. Erie, '87.
- Onekama, tug, 33 g. t., b. '83, Portage Harbor, Mich., in com.
- Onen, Anna F., tug, 50 g. t., b. '86, Youngstown, N. Y., in com.
- Oneonto, schr., 424 g. t., b. '62, Buffalo, in com.
- Ongiara, Can. prop., 94 n. t., b. '85, Toronto, in com., formerly Queen City.
- Only Sue, tug, passed out.
- Onoko, s. prop., 2,164 g. t., b. '82, Cleveland, in com.
- Onondaga, schr., ashore Manistee river, '41.
- Onondaga, bark, b. '66.
- Onondaga, Can. bge., 380 n. t., b. '71, Garden Island, in com.
- Onondaga, schr., sunk near Chicago, '75.
- Onondaga, English armed schr., on L. Ont., 1793.
- Onondaga, U. S. rev. cut., b. Cleveland, '98, transferred Atlantic coast, '98.
- Ontario, Can. bge., 228 n. t., b. '75, Lancaster, in com.
- Ontario, brig, lost Green bay, '58.
- Ontario, schr., b. by English Gov., Carleton island, 1779, lost L. Ont., in gale, about 1789, with crew and detachment of English soldiers, 172 souls in all.
- Ontario, prop., 400 t., b. Rochester, '46, made passage from Buffalo to San Francisco, first steam vessel to leave lakes.
- Ontario, Can. prop., 80 g. t., b. '68, Lindsay, in com.
- Ontario, Can. prop., 41 g. t., b. '70, Hamilton, in com.
- Ontario, Can. prop., 723 n. t., b. '73, Chatham, in com.
- Ontario, Can. prop., 11 g. t., b. '81, Walker's Point, in com.
- Ontario, schr., 70 t., b. Lewiston, '09, sold U. S. Gov. during war of '12, armed with 2 guns.
- Ontario, schr., wrecked L. Ont., '54.
- Ontario, English sloop of war, b. Oswego in 1755, captured at Oswego by Montcalm in 1756.
- Ontario, Can. schr., 210 n. t., b. '68, Goderich, in com.
- Ontario, Can. schr., 107 g. t., b. '74, Fort Ann, N. Y., in com.
- Ontario, schr., sunk off Port Porter, '81.
- Ontario, first stmr. on lakes, 232 t., b. '16, Sacket's Harbor, first trip, '17, broken up at Oswego, '32.
- Ontario, brig, b. Three Mile Bay, L. Ont., '43.
- Ontario, stmr., 832 t., b. Clayton, L. Ont., '47.
- Ontario, stmr., 160 t., burned Toronto, '85.
- Ontario, stmr., 444 g. t., b. '84, Clayton, N. Y., passed out, '95.
- Ontario, Can. stmr., 1,733 n. t., b. '91, Owen Sound, in com.
- Ontario, Can. tug, 57 g. t., broken up '97.
- Ontario, tug, burned Algonac, '70.
- Ontario, Can. tug, '57, g. t., b. '81, Buffalo, in com.
- Ontario, tug, burned Port Huron, '83.
- Ontonagon, prop., 775 t., b. Fairport, '66.
- Ontonagon, prop., 682 t., b. Buffalo, '56, burned Detroit r., '83.
- Ontonagon, schr., 217 t., b. '47, wrecked L. Ont., '62, carried in '56, first iron ore cargo L. Sup. to L. Erie.

- Onward, slpy., 24 g. t., b. '75, Islip, N. Y., in com.  
 Onward, schr., 99 g. t., b. '79, Wilson, N. Y., in com.  
 Opechee, schr., foundered L. Erie, '64, 6 lives lost.  
 Orantes, schr., in com., '82.  
 Orcadia, Can. tug, 33 n. t., b. '88, Goderich, in com.  
 Orcadia, Can. tug, 30 n. t., b. '94, Collingwood, in com.  
 Orchard, Lucy, schr., passed out.  
 Oregon, prop., 346 t., b. Cleveland '46, lost by boiler explosion Detroit r. '55, 10 lives lost, raised, '61.  
 Oregon, prop., 974 g. t., b. '82, West Bay City, in com.  
 Oregon, schr., 145 t., b. Three Mile Bay, L. Ont., '43, foundered L. Erie '52, 10 lives lost.  
 Oregon, schr., 46 g. t., b. '80, Pine River, Mich., in com.  
 Oregon, stmr., sunk by col., Bois Blanc island, '86.  
 Oregon, stmr., 781 t., b. Newport, '45, burned Chicago, '49, while laid up.  
 Orient, schr., ashore L. Mich., '55.  
 Orient, schr., 319 t., b. Tonawanda, '70.  
 Orient, tug, 19 t., b. '74, sunk with all hands off Point Pelee, '87.  
 Orient, prop., 37 g. t., b. '74, passed out, '93.  
 Oriental, prop., 950 t., b. Buffalo, '54, lost on Skillegalee with two wrecking pumps, '59.  
 Oriental, schr., wrecked L. Ont. '57.  
 Oriental, Can. bge., 328 t., b. 66, sunk L. Ont., with crew of 5, '87.  
 Orillia, Can. prop., 135 g. t., b. '85, Orillia, in com.  
 Orinoco, prop., 1,926 n. t., b. Bay City, '98, in com.  
 Oriole, schr., sunk by col., '67, 12 lives lost.  
 Oriole, Can. sail yt., 50 g. t., b. '86, Toronto, in com.  
 Oriole, Can. prop., 75 g. t., b. '86, Gravenhurst, in com.  
 Oriole, tug, in com., '66.  
 Orion, schr., b. '53, lost L. Erie, '72.  
 Orion, schr., lost Point aux Barques, '56, sunk near St. Joseph, '61.  
 Orion, stmr., 636 t., b. Manitowoc, '66, wrecked Grand Haven, '70.  
 Orion, schr., 308 t., b. Hamilton, '67.  
 Orion, Can. prop., 527 n. t., b. '72, Welland, in com. formerly Isaac May.  
 Orizaba, sty., 76 g. t., b. '75, Buffalo, in com.  
 Orkney Lass, Can. brig, 281 g. t., b. Kingston, '56, lost L. Erie, '67, with all hands, passed out, '92.  
 Orleans, brig, ashore near Detroit, '47.  
 Orleans, Can. prop., 166 n. t., b. '82, Levis, in com.  
 Orontes, bge., 557 t., b. '56, total wreck L. Hur., '83.  
 Orphan Boy, bark, b. '62, Black River, O., lost '85, L. Mich.  
 Orphan Boy, schr., 7 g. t., b. '76, Bangor, Mich., in com.  
 Orr, Arthur, s. prop., 2,329 g. t., b. '93, Chicago, abandoned L. Sup., '98.  
 Orr, George N., prop., 2,972 g. t., b. '96, Chicago, in com.  
 Orton, Minnie E., schr., 431 g. t., b. '84, Marine City, in com.  
 Orton, T. H., bge., 262 g. t., b. '73, in com.  
 Osborn, schr., abandoned L. Erie, '74.  
 Osborne, J. M., prop., sunk by col. near Owen Sound, '84.  
 Osborne, S. S., schr., 853 t., b. Fairport, '67.  
 Osborne, Thos., Can. tug, 28 n. t., b. '93, Hull, in com., formerly J. Henry.  
 Oscar, George, schr., 31 t., b. Sheboygan, '70.  
 Osceola, brig, wrecked L. Mich., '41, wrecked L. Erie, '46, 4 lives lost.  
 Osceola, schr., wrecked L. Erie, '51.  
 Osceola, prop., 980 g. t., b. '82, Bay City, wrecked L. Hur., '88, in com.  
 Osceola, stmr., b. Grand Island, '38.  
 Osceola, sty., 21 g. t., b. '89, Lakeside, O., in com.  
 Osceola, sty., 15 g. t., b. '93, Chicago, in com.  
 Oscius, brig, 318 t., passed out.  
 Oscoda, prop., 529 g. t., b. '78, St. Clair, in com.  
 Osgood, J. C., tug, 51 g. t., b. '63, New Baltimore, N. Y., passed out, '92.  
 O'Shanter, Tam, tug, 24 g. t., b. '92, Buffalo, in com.  
 O'Shaw, schr., 40 t., b. South Haven, '78.  
 Oshawa, prop., wrecked L. Ont., '61.  
 Osiris, Can. bge., 152 n. t., b. '92, Deseronto, in com.  
 Osprey, schr., wrecked Oswego, '58, 3 lives lost.  
 Osprey, Can. prop., b. Sorel, '63, laid up '76, later burned.  
 Osprey, Can. tug, 57 n. t., b. '86, Meaford, in com., formerly Hiawatha.  
 Ossifrage, prop., 433 g. t., b. '86, West Bay City, in com.  
 Ostrich, schr., 279 g. t., b. '56, Buffalo, lost L. Mich. '92, with all hands.  
 Oswegatchie, prop., 350 g. t., b. '67, Ogdensburg, sunk L. Hur., '91.  
 Oswego, stmr., 286 t., b. Oswego, '33, changed to sail, '39, lost, engines placed in stmr. St. Lawrence.  
 Oswego, prop., 150 t., b. Oswego '42, sunk by col., '52.  
 Oswego, prop., b. Rochester, '46.  
 Oswego, English sloop of war, b. Oswego, 1755, captured at Oswego, by Montcalm in 1756.  
 Oswego, tug, 148 g. t., b. '57, Philadelphia, burned Detroit r., '91.  
 Oswego, prop., wrecked off Barcelona, '67, 5 lives lost.  
 Oswego, stcb., 115 g. t., b. '81, Phoenix, N. Y., in com.  
 Oswego, sunk by col., '87.  
 Oswego Belle, prop., in com., '77.  
 Oswell, J. N., Can. schr., 112 g. t., b. '75, Curley's Mills, in com.  
 Otego, prop., 334 g. t., formerly City of St. Catharines, b. '74, Port Robinson, Ont., burned, '95.  
 Othello, tug, 10 g. t., later the Morning Star.  
 Other, Can. scow, 51 g. t., b. '79, Gravenhurst, in com.  
 Otis, John, prop., 301 g. t., formerly G. J. Truesdell, b. '64, Chicago, in com.  
 Otis, John, prop., sunk Sturgeon bay, '90.  
 Otonabee, schr., 301 t., b. Port Hope, '67.  
 Otonabee, Can. schr., 80 g. t., b. '72, Fort Ann, N. Y., in com.  
 Ottaca, scow, sunk L. Erie, '60.  
 Ottawa, prop., sunk near Kingston, '51.  
 Ottawa, Can. prop., 116 g. t., b. '85, Pembroke, in com.  
 Ottawa, schr., 130 g. t., b. '37, Oregon, O., wrecked Port Stanley, '48.  
 Ottawa, schr., 163 g. t., b. '74, Grand Haven, in com.  
 Ottawa, schr., sunk Sarnia bay by col., '75.  
 Ottawa, stmr., 300 t., b. '52, Detroit, ferry boat Detroit and Toledo.  
 Ottawa, stmr., sunk '55, by col. near Brockville.  
 Ottawa, Can. tug, 34, n. t., in com.  
 Otter, slp., on Lake Superior in 1800.  
 Otter, schr., 205 g. t., b. '63, Freeport, O., wrecked near Sturgeon bay, '95.  
 Our Son, schr., 720 g. t., b. '75, Black River, O., in com.  
 Outaouaise, bark, b. by French near Ogdensburg in 1759 to carry 10 guns, captured by the English 1760.  
 Outhwaite, J. H., prop., 1,304 g. t., b. '86, Cleveland, in com.  
 Outing, bge., 33 g. t., b. '92, in com.  
 Outing, sty., 19 g. t., b. '92, Bay City, in com.  
 Outlet Queen, Can. sty., 18 g. t., b. '88, Warburton, in com.  
 Outward Bound, schr., 260 t., foundered '49, 11 lives lost.  
 Oval Agitator, prop., 94 g. t., b. '92, Grand Haven, in com.



- Owanungah, first three-mast schooner on lakes, 130 t., b. Buffalo, '36, ashore L. Mich. '36, released and in service many years.
- Owasco, schr., 314 g. t., b. '63, Detroit, passed out, '97.
- Owashenock, stmr., 45 t., b. Grand Haven, '38, broken up.
- Owego, prop., liner in '50s, wrecked near Dunkirk, '67, 5 lives lost.
- Owego, prop., 2,611 g. t., b. '88, Buffalo, in com.
- Owen, Can. prop., 103 g. t., b. '84, Chatham, in com.
- Owen, Can. schr., ashore Long Point, '20.
- Owen, tug, 43 g. t., b. '81, Detroit, in com.
- Owen, D. R., schr., sunk at Manistee, '78.
- Owen, Garry, schr., 333 t., sunk with all hands L. Erie, '66, sunk L. Erie, '69.
- Owen, George B., schr., 744 g. t., b. '93, West Bay City, in com.
- Owen, Ira H., prop., 1,753 g. t., b. '87, Cleveland, in com.
- Owen, Ira H., prop., 573 g. t., later the Monohansett.
- Owen J., Emory, prop., 1,739 g. t., b. '88, Detroit, in com.
- Owen, John, stmr., 230 t., b. Detroit, '42, burned St. Clair r., '60.
- Owen, John, stmr., 250 t., b. Truago, '45.
- Owen, John, s. prop., 2,127 g. t., b. '89, Wyandotte, in com.
- Owen, John, tug, 328 g. t., b. '74, Detroit, in com.
- Owens, John, stcb., 130 g. t., b. '93, Buffalo, in com.
- Ox, Can. bge., 130 g. t., b. '73, Kingston, in com.
- Oxford, scow, 49 t., b. '47.
- Oxford, schr., 250 t., b. Chaumont, '48, ashore '51.
- Oxford, brig, sunk by col., L. Erie, '56, 5 lives lost.
- Pabst, Fred, prop., 2,430 g. t., b. '90, Milwaukee, in com.
- Pacific, brigantine, took wheat Toronto to Liverpool '44.
- Pacific, schr., wrecked L. Erie, '44.
- Pacific, schr., sunk '55.
- Pacific, stmr., 500 t., b. Newport, '47, made bge., lost L. Mich., '67.
- Pacific, schr., lost L. Ont., '62.
- Pacific, prop., 604 t., b. Cleveland, '64, wrecked L. Sup., '87.
- Pacific, scow, wrecked Port Burwell, '66.
- Pacific, tug, 42 g. t., b. '76, Buffalo, in com.
- Pacific, Can. prop., 524 n. t., b. '82, Owen Sound, burned Collingwood, '98.
- Pacific, sty., 10 g. t., b. '84, Houghton, in com.
- Pacific, bge., sunk off Sandusky, '88.
- Pacific, tug, 10 g. t., formerly Syphax.
- Packard, Mary E., schr., 101 g. t., b. '75, South Haven, in com.
- Packer, Harry E., prop., 1,142 g. t., b. '82, Cleveland, in com.
- Packer, Robert A., 921 g. t., b. '81, Bay City, in com.
- Pactoles, stmr., passed out.
- Page, Marion W., schr., 749 g. t., b. '76, Milan, chartered ocean, '98.
- Pageat, tug, in com., '80.
- Pahlow, Louis, prop., 366 g. t., b. '82, Milwaukee, in com.
- Paipe, George R., tug, 34 g. t., b. '82, Cleveland, in com.
- Paige, John A., tug, 51 g. t., b. '81, Green Bay, burned L. Sup., '92.
- Paige, Joseph, schr., 625 g. t., b. '72, Milwaukee, wrecked L. Sup., '97.
- Paige, S. B., schr., 47 g. t., b. '63, Oshkosh, lost Green bay, '98.
- Paine, Gen. H. E., prop., 48 t., b. Boston, '65.
- Paine, Tom, schr., 46 g. t., b. '71, Chicago, in com.
- Paisley, schr., 1,046 g. t., b. '93, West Bay City, in com.
- Palestine, schr., 210 t., b. '47, Black River, O., ashore L. Hur., '48.
- Pallalusa, sty., 31 g. t., b. '91, Erie, passed out, '97.
- Pallas, stcb., 106 g. t., b. '73, Lockport, Ill., in com.
- Palmer, E. B., schr., 277 g. t., b. '89, Port Huron, wrecked L. Hur., '92.
- Palmer, G. W., schr., 65 g. t., b. '67, Essex, in com.
- Palmer, Julia, stmr., 300 t., b. Buffalo, '36, formerly a ship, lost L. Sup., '47.
- Palmer, Thos. W., prop., 837 t., b. Detroit, '80, later the Samoa.
- Palmer, Thos. W., s. prop., 2,134 g. t., b. '89, Wyandotte, in com.
- Palmetto, schr., 240 t., b. Three Mile Bay, L. Ont., '47, wrecked L. Hur., '65.
- Palms, Francis, schr., 560 t., b. Marine City, '68, lost '89, L. Mich.
- Palmyra, schr., 180 t., b. Chaumont, '48, wrecked Gull island, '51.
- Paloma, Can. bge., 122 g. t., b. '85, Bobcaygeon, in com.
- Pamlico, schr., b. '66, ashore Little Traverse bay, '75.
- Panchee, prop., sunk L. Ont., '61.
- Pandora, Can. schr., 333 n. t., b. '68, Port Colborne, in com.
- Pandora, tug, 13 g. t., b. '89, Ogdensburg, in com.
- Pankratz, Geo., tug, 63 g. t., b. '82, Manitowoc, in com.
- Panther, prop., 1,373 g. t., b. '90, West Bay City, in com.
- Pappoose, slpy., 15 g. t., b. '88, South Boston, Mass., passed out, '92.
- Paragon, stmr., 41 t., b. Detroit, '43.
- Paragon, brig, 212 t., damaged by col., Chicago, '55.
- Paragon, total wreck Sarnia, '68.
- Paragon, Can. schr., now the Canadian schr. Kee-watin.
- Parana, schr., 406 g. t., b. '62, Cleveland, in com.
- Park, T. F., bark, sailed for Europe, '60.
- Parker, A. A., prop., 1,661 g. t., formerly Kasota, b. '84, Cleveland, in com.
- Parker, B. W., schr., 1,476 g. t., b. '90, Gibraltar, in com.
- Parker, Clara, schr., 556 t., b. Detroit, '65, ashore near Grand Haven, '83.
- Parker, C. W., tug, 36 g. t., b. '73, Chicago, passed out, '91.
- Parker, Ellen, brig, 332 t., b. Chicago, '46, ashore Buffalo, '46.
- Parker, F. L., schr., 628 t., b. Manitowoc, '81.
- Parker, Geo. H., tug, 105 g. t., b. '61, Detroit, in com.
- Parker, Jacob A., in com., '46.
- Parker, Jason, schr., 100 g. t., b. '59, Milwaukee, in com.
- Parker, Theo., schr., b. Buffalo, '55.
- Parker, Thos. L., schr., 628 g. t., b. '81, Manitowoc, chartered ocean service, '98.
- Parks, Helen, schr., damaged by col., '47.
- Parks, O. E., prop., 392 g. t., b. '91, Saugatuck, in com.
- Parks, T. F., Can. stmr., 450 t., formerly Plough Boy, b. Chatham, '51, burned Detroit, '70.
- Parks, William, tug, 41 g. t., b. '64, Philadelphia, in com.
- Parley, W. G., Can. schr., 164 g. t., b. '78, Hull, in com.
- Parmelee, J. W., tug, 31 g. t., b. '83, Saugatuck, in com.
- Parnell, Chas. S., tug, 30 g. t., b. '81, Buffalo, in com.
- Parnell, Chas. S., prop., 1,739 g. t., b. '88, Detroit, in com.
- Parnell, Fanny, tug, 15 g. t., b. '84, Chicago, in com.

- Parrotte, J. C., stmr., passed out.  
 Parsons, schr., 217 t., b. '56, foundered L. Mich., '83.  
 Parsons, John S., prop., 204 g. t., b. '91, Chaumont, in com.  
 Parsons, Lillie, schr., 167 t., b. Tonawanda, '68, abandoned St. Lawrence r., '77.  
 Parsons, M. F., Can. tug, 60 n. t., b. '64, Buffalo, in com.  
 Parsons, Philo, stmr., 221 t., b. Algonac, '61, captured by Confederates, L. Erie, '64.  
 Parsons, Thos., schr., 350 t., b. Charlotte, N. Y., '68, sunk L. Erie, '91.  
 Parthenon, Can. schr., '56 g. t., b. '77, Oakville, in com.  
 Parthia, Can. stmr., 207 n. t., b. '93, Garden Island, in com.  
 Pasadena, prop., 1,760 g. t., b. '89, Cleveland, in com.  
 Passaic, prop., 331 g. t., b. '62, Buffalo, foundered L. Erie, '91.  
 Passport, Can. stmr., 427 n. t., b. '47, Niagara, in com.  
 Pastime, sty., 49 g. t., b. '81, Brooklyn, in com.  
 Pastime, sty., 20 g. t., b. '88, Alexandria Bay, in com.  
 Pastime, stmr., 454 g. t., b. '89, Toledo, in com.  
 Patchin, A. D., stmr., 870 t., b. Trenton, '47, wrecked Skillagalee, '53.  
 Pathfinder, bark, lost near Chicago, '55.  
 Pathfinder, tug, 38 g. t., formerly A. J. Crawford, b. '63, Chicago, in com.  
 Pathfinder, schr., 603 t., b. '69, wrecked Two Rivers, '86.  
 Pathfinder, prop., 2,425 g. t., b. '92, West Superior, in com.  
 Pathfinder, sty., 159 g. t., b. '96, Racine, in com.  
 Patriot, schr., b. Three Mile Bay, L. Ont., '38.  
 Patronage, stmr., 56 t., b. St. Joseph, '38, broken up.  
 Pattee, G. B., Can. schr., 157 g. t., b. '78, Ottawa, in com.  
 Pattee, G. B., Can. prop., 30 g. t., b. '82, Ayhner, in com.  
 Patten, Juniatta, schr., 260 t., b. Milwaukee, '47.  
 Patterson, Grace, schr., lost Twin River point, '82.  
 Pauhassett, prop., 299 t., b. Ohio City, '47, burned Dunkirk, '56.  
 Paulina, schr., passed out.  
 Pauline, 14 t., b. Detroit, '83.  
 Pauly, John H., prop., 300 g. t., formerly Thomas Kingsford, b. '80, Oswego, in com.  
 Pawhattan, schr., stranded, '32.  
 Pawnee, prop., 639 g. t., b. '88, Marine City, in com.  
 Payne, H. B., Can. tug, 40 n. t., b. '71, Erie, in com.  
 Payne, L. S., tug, 15 g. t., b. '65, Buffalo, in com.  
 Peach, schr., in com., '63.  
 Peacock, Wm., stmr., 120 t., b. Barcelona, '29, boiler exploded, killing 15 persons, L. Erie, '30.  
 Pearce, Pierre L., Can., bge., 115 g. t., b. '66, Oswego, in com.  
 Pearl, stmr., 251 t., b. Newport, '51, broken up, '69.  
 Pearl, schr., wrecked East Sister Reef, '55.  
 Pearl, schr., 31 g. t., b. '67, Fairport, in com.  
 Pearl, stmr., 551 g. t., b. '71, Detroit, in com.  
 Pearl, Can. schr., 97 t., wrecked Napanee, '71, later the Absalom Shade.  
 Pearl, schr., 21 g. t., b. '74, Grand Haven, in com.  
 Pearl, scow, ashore L. Erie, '74.  
 Pearl, 552 t., b. Detroit, '75.  
 Pearl, tug, 9 g. t., b. '82, Erie, passed out, '95.  
 Pearl, Can. prop., 8 g. t., b. '85, Peterboro, in com.  
 Pearson, Hiram, schr., formerly Commerce, lost '70.  
 Pease, Edward S., prop., 716 g. t., formerly California, b. '73, Port Dalhousie, in com.  
 Peck, E. M., schr., b. Cleveland, '57, foundered '68, L. Mich., 8 lives lost.  
 Peck, bge., sunk Sand Beach, '85.  
 Peck, E. M., tug, 86 g. t., b. '63, Cleveland, O., later the C. E. Benham.  
 Peck, E. M., prop., 1,809 g. t., b. '88, Wyandotte, in com.  
 Peck, Susan E., prop., 1,399 g. t., b. '92, Wyandotte, later the Lewiston.  
 Peck, W. L., schr., 361 g. t., b. '73, Carrollton, sunk L. Erie, '91.  
 Peck, Wm., stmr., 172 t., b. Buffalo, '54.  
 Peckham, W. S., tug, 18 g. t., b. '92, Buffalo, in com.  
 Peel, Sir Robert, Can. stmr., 350 t., b. Brockville, '37, captured and burned Well's island, '38, by "patriots."  
 Peerless, Can. schr., 400 g. t., b. '52, Dumbarton, wrecked.  
 Peerless, Can. schr., 256 t., b. '55, sunk L. Ont., '83.  
 Peerless, bark, wrecked Dunkirk, '59.  
 Peerless, stmr., passed from Lakes to Atlantic, '61.  
 Peerless, prop., 1,199 g. t., b. '72, Cleveland, in com.  
 Peerless, stch., 99 g. t., b. '76, Chicago, in com.  
 Peerless, stmr., burned Montebello, '85.  
 Peerless, tug, 77 g. t., b. '93, Sandusky, in com.  
 Peerless, Can. stmr., now the Empress.  
 Peggy, Can. schr., b. L. Ont., 1790.  
 Pelican, schr., 813 g. t., b. '72, Detroit, foundered L. Erie, '93, 4 lives lost.  
 Pelton, J. R., schr., 129 g. t., b. '91, Vermilion, wrecked L. Erie, '96.  
 Pelton, J. R., schr., 128 g. t., b. '66, Vermilion, in com.  
 Pembroke, Can. prop., 162 g. t., b. '62, Pembroke, in com.  
 Pendell, tug, 14 t., b. '79, wrecked L. Sup., '87.  
 Pendell, tug, 20 t., burned L. Mich., '85.  
 Pendell, Dorcas, schr., 407 g. t., b. '84, Saginaw, in com.  
 Pendleton, I. C., schr., in com., '50.  
 Penelope, sty., 54 g. t., b. '92, St. Clair, in com.  
 Penfield, J. P., schr., 383 t., b. Three Mile Bay, '61, aground L. Hur., '70.  
 Penguin, scow, b. '68, Black River, O.  
 Peninsula, prop., 354 t., b. St. Clair r., '49, wrecked L. Hur., '53.  
 Peninsula Packet, a "horse boat," used as ferry at Toronto, operated by two horses on deck, '44 to '50.  
 Peninsular, prop., on L. Sup., before '55.  
 Penn, Wm., stmr., 250 t., b. Erie, '26, dismantled '37.  
 Penn, Wm., schr., capsized L. Ont., '51, 3 lives lost, wrecked L. Erie, '56.  
 Penn, William, Can. schr., b. '63, now the Can. schr., M. L. Breck.  
 Penniman, George, schr., 84 g. t., b. '94, Sebewaing, in com.  
 Pennington, B. L., schr., 1,142 g. t., b. '89, Gibraltar, Mich., in com.  
 Pennsylvania, stmr., '395 t., b. Erie, '32, broken up.  
 Pennsylvania, schr., b. Three Mile Bay, L. Ont., '36, wrecked L. Erie, '44, 10 lives lost.  
 Penobscot, schr., 257 g. t., b. '80, Manitowoc, in com.  
 Penobscot, prop., 3,502 g. t., b. '95, West Bay City in com.  
 Penokee, schr., 332 g. t., b. '72, Milwaukee, in com.  
 Pensaukee, schr., 578 t., b. Sturgeon Bay, '67, later the schr. James G. Blaine.  
 Pensaukee, tug, 34 g. t., b. '75, Pensaukee, in com.  
 Pentagoet, prop., 333 g. t., formerly Geo. M. Bibb.  
 Pentland, prop., 827 g. t., b. '94, Grand Haven, in com.  
 Penyon, John, schr., damaged by col., '51.  
 Peoria, schr., 167 g. t., b. '54, Black River, in com.  
 Pepiken, Can. prop., 40 n. t., b. '95, Sarnia, in com.

- Pere Marquette, cfy., 2,443 g. t., b. '96, West Bay City, in com.
- Perew, Frank, schr., 524 g. t., b. '67, Cleveland, founded L. Sup., '91, 6 lives lost.
- Perew, Frank, Can. tug, 70 n. t., b. '67, Buffalo, in com.
- Perew, Frank, bark, foundered near the South Fox, '73.
- Perew, Mary E., schr., 337 g. t., b. '61, Cleveland, in com.
- Perfection, tug, 71 g. t., b. '92, West Bay City, in com.
- Peri, sly., 8 g. t., b. '89, in com.
- Periwinkle, prop., 412 g. t., formerly Perry, b. '64, Buffalo, burned Toledo, '97.
- Perkins, Chris., stcb., 118 g. t., b. '84, Lockport, passed out, '95.
- Perkins, E. L., Can. prop., 17 g. t., b. '87, Aylmer, in com.
- Perley, G. H., Can. prop., 122 g. t., b. '90, Sand Point, in com.
- Pernelia, slp., 17 g. t., b. '82, Wells Island, N. Y., in com.
- Perogue, schr., 20 t., passed out.
- Perrett, J. C., prop., 537 g. t., b. '82, Manitowoc, passed out, '97.
- Perris, P. J., scow, wrecked Rondeau, '63.
- Perry, tug, b. Buffalo, '55.
- Perry, schr., 413 g. t., later the Periwinkle.
- Perry, schr., 206 t., lost L. Ont., '56.
- Perry, Com., schr., in com. about '16, sunk L. Ont., '20, recovered.
- Perry, Com., stmr., 352 t., b. Perrysburg, '34, boiler exploded, '35, killing 6.
- Perry, Com., U. S. rev. cut., ashore, '77, Sturgeon Point.
- Perry, L. W., schr., 253 g. t., b. '70, Port Huron, in com.
- Perry, O. H., stmr. (small), burned Sandusky, '69.
- Perry, Sam, Can. prop., 42 g. t., b. '72, Port Dalhousie, in com.
- Perry, Theodore, schr., 249 t., b. '55, sunk '87, 5 lives lost.
- Perseverance, 85 t., b. L. Sup., captured by Americans, '14.
- Perseverance, Can. schr., b. Kingston, '16.
- Perseverance, stmr., 50 t., b. Erie, '32, broken up.
- Perseverance, Can. prop., 450 t., b. Port Dalhousie, '64.
- Perseverance, prop., burned '68, L. Ont., 14 lives lost.
- Persia, schr., 96 g. t., b. '55, Chicago, wrecked, '92, L. Mich.
- Persia, schr., 200 t., b. Hamilton, '67.
- Persia, Can. prop., 392 n. t., b. '73, St. Catharines, in com.
- Persian, schr., sunk by col. L. Hur., '68, 10 lives lost.
- Persian, prop., 1,630 t., b. Cleveland, '74, burned and sunk L. Erie, '75.
- Pert, schr., 50 t., U. S. service, '12, L. Ont., originally Collector, 1 gun.
- Perue, Hattie B., prop., 193 g. t., b. '81, South Haven, in com.
- Peruvian, Can. slp., 53 n. t., b. '88, Seeley's Bay, in com.
- Peshigo, prop., 817 g. t., b. '69, Trenton, Mich., in com.
- Preshtigo, schr., 633 g. t., b. '89, Milwaukee, in com.
- Peter, schr., passed out.
- Peters, E. J., Can. schr., 130 g. t., b. '75, Port Dalhousie, in com.
- Peterson, Annie M., 631 g. t., b. '74, Green Bay, in com.
- Peterson Ferry, Can. stmr., 9 g. t., b. '75, Sophiasburg, in com.
- Peterson, Louis, sty., 9 g. t., b. '96, Buffalo, in com.
- Petersville, 70 t., b. Detroit, '70.
- Petoskey, prop., 770 g. t., b. '88, Manitowoc, in com.
- Petrel, schr., 151 t., b. Buffalo, '47, sunk L. Mich., '83.
- Petrel, schr., lost L. Mich., '54, 4 lives lost.
- Petrel, tug, wrecked by explosion, '58.
- Petrel, schr., 78 g. t., b. '64, Pultneyville, in com.
- Petrel, schr., 8 g. t., b. '85, Charlotte, passed out, '93.
- Petrel, Can. tug, 280 n. t., b. '92, Collin Bay, in com.
- Petrel, tug, 34 g. t., b. '95, Au Sable, in com.
- Petrie, A. M., Can. prop., 29 g. t., b. '92, Hamilton, in com.
- Petronelle, prop., 70 t., b. '69, sunk Sister island, '73.
- Pewabic, prop., b. Cleveland, '63, sunk by col. L. Hur., '65, about 70 lives lost.
- Pewaukee, prop., 310 g. t., formerly Two Friends, b. '73, Port Burwell, Ont., in com.
- Pfister, Guido, schr., 661 t., ashore Duluth, '85.
- Phalarope, schr., 371 t., b. Cleveland, '54, abandoned L. Erie, '72.
- Phantom, slpy., 9 g. t., b. '84, Chicago, in com.
- Phantom, schr., 13 g. t., b. '88, Ludington, foundered L. Mich., '95.
- Phelps, W. B., schr., total wreck Glen Arbor, '79.
- Phenix, schr., 206 g. t., b. '68, Stony Creek, passed out, '97.
- Phenix, prop., 1,294 g. t., b. '84, West Bay City, in com.
- Phenix, tug, 70 g. t., formerly Waldo A. Avery.
- Philadelphia, schr., 120 t., b. Erie, '36.
- Philadelphia, i. prop., 1,463 g. t., b. '68, Buffalo, sunk by col. L. Hur., '93, 24 lives lost.
- Phillips, Harold B., tug, 32 g. t., b. '80, Lorain, in com.
- Phillips, Jesse, schr., 186 g. t., b. '68, Manitowoc, in com.
- Philomene, Can. scow, 38 g. t., b. '82, Belle River, in com.
- Phoebe, schr., ashore Grand river, '25.
- Phoebe, schr., lost '71.
- Phoebe, Catherine, Can. schr., 141 g. t., b. '64, Picton, in com.
- Phoenix, prop., 305 t., b. Cleveland, '45, burned L. Mich., '47, 190 lives lost.
- Phoenix, tug, burned L. Ont., '63.
- Phoenix, scow, sunk L. Erie, '64.
- Phoenix, tug, burned Detroit, '84.
- Phoenix, Can. tug, 43 n. t., b. '86, Ausable Falls, in com.
- Phoenix, tug, formerly the I. N. Masters.
- Phoenix, Can. stmr., b. Montreal, broken up.
- Pickands, H. S., 625 g. t., b. '84, Grand Haven, in com.
- Pickands, James, prop., 1,545 g. t., b. '86, Cleveland, stranded, '94.
- Picket, sty., 39 g. t., b. '87, Brooklyn, in com.
- Picton, Can. schr., 181 n. t., b. '67, Picton, in com.
- Picton, stmr., b. Mill Point, '70, wrecked L. Erie, '82.
- Pickup, prop., 137 g. t., later the Lucille.
- Pierce, A. C., schr., 30 g. t., b. '87, Sebawaing, in com.
- Pierce, Annie M., tug, 23 g. t., b. '73, Buffalo, in com.
- Pierce, David, schr., b. '54, Ashtabula.
- Pierce, D. C., bark, 386 t., sailed Europe, '58, destroyed by Rebels, '61.
- Pierce, Franklin, schr., wrecked nr. Duck Pond, '54.
- Pierce, Mary E., tug, 21 g. t., b. '71, Buffalo, in com.
- Pierpont, Can. stmr., 109 n. t., b. '71, Kingston, in com.
- Pierston, W. S., bark, 386 t., b. Sandusky, '59.
- Piffany, A., foundered L. Mich., '83.
- Pike, Ellen, schr., wrecked L. Mich., '63.
- Pike, Gen., sloop-of-war, 875 t., b. U. S. Gov., Sacket's Harbor, '13, 28 guns.
- Pilgrim, brig, 242 t., b. Ohio City, '47, wrecked L. Erie, '48, wrecked L. Mich., '69.
- Pilgrim, sty., 32 g. t., formerly Truant, b. '76, Brooklyn, in com.

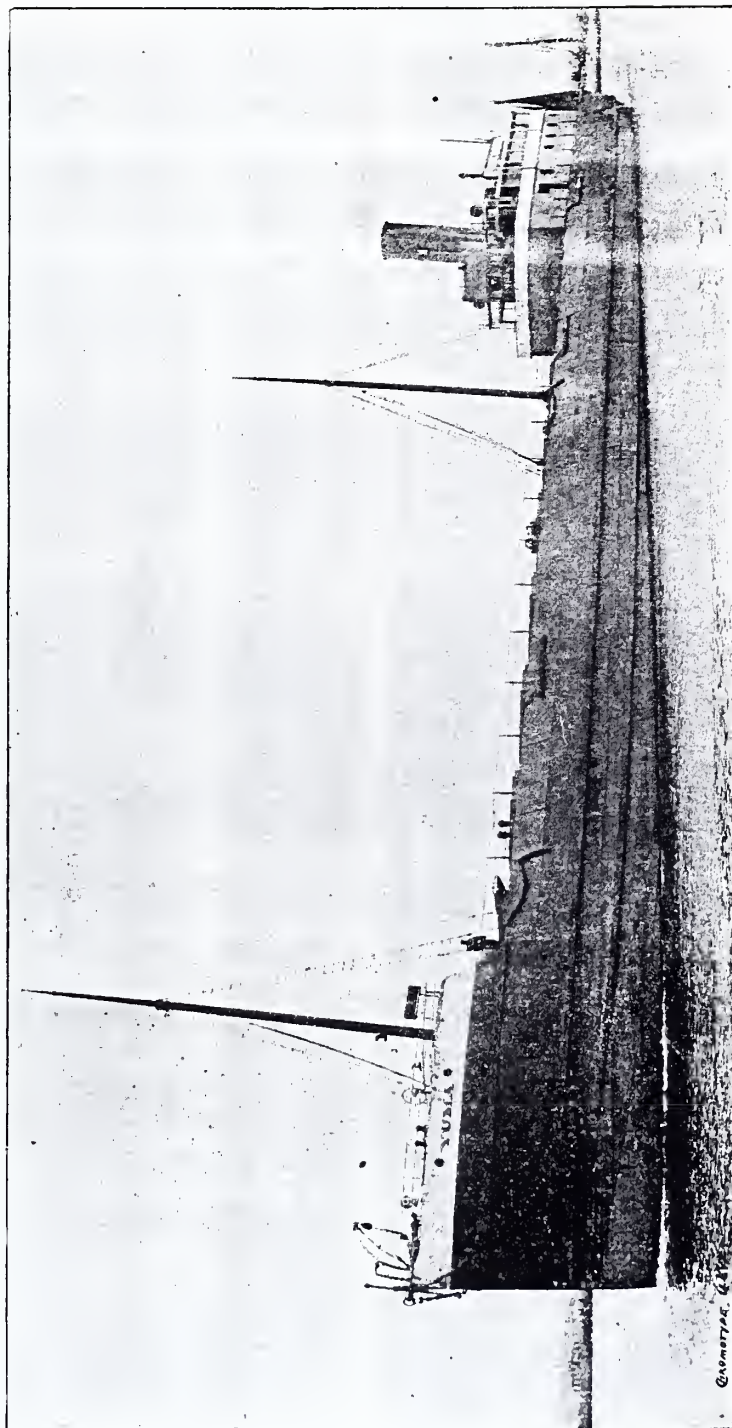


- Pilgrim, Can. stmr., 202 n. t., b. '84, St. Nicholas, in com.
- Pilgrim, prop., 299 g. t., b. '88, Saugatuck, in com.
- Pilgrim, Kate, Can. prop., 11 g. t., b. '75, Meaford, in com.
- Pillsbury, s. prop., 2,234 g. t., b. '94, West Superior, later the Henry Cort.
- Pilot, schr., 28 t., b. Cleveland, '14.
- Pilot, schr., b. Cleveland, '21.
- Pilot, schr., 50 t., b. Milwaukee, '45, sunk Chicago, '57.
- Pilot, scow, foundered near Chicago, '58, 2 lives lost.
- Pilot, schr., 131 g. t., b. '61, Depere, passed out, '95.
- Pilot, tug, 77 t., burned Algonac, '65.
- Pilot, Can. schr., 37 n. t., b. '66, Wilson, in com.
- Pilot, tug, 30 g. t., b. '82, Milwaukee, in com.
- Pilot, schr., sunk by col., L. Mich., '83.
- Pilot, Can. fry., 417 n. t., b. '84, Levis, in com.
- Pilot, schr., 9 g. t., b. '86, Cheboygan, in com.
- Pinafore, Can. schr., 57 n. t., b. '86, Port Frank, in com.
- Pine Lake, prop., 388 g. t., b. '95, Charlevoix, in com.
- Pinola, prop., 25 g. t., b. '94, Cleveland, in com.
- Pinta, caravel from Spain to World's Fair, '93.
- Pinta, Can. schr., 36 g. t., b. '69, Port Nelson, in com.
- Pinta, sly., 7 g. t., b. '92, in com.
- Pinto, Dick, prop., b. '54, Black River, O.
- Pioneer, stmr., 230 t., b. Black Rock, '25, wrecked L. Mich., '34.
- Pioneer, tug 18 g. t., b. '65, Sugar Island, Mich., in com.
- Pioneer, schr., wrecked Grand Haven, L. Mich., '66.
- Pioneer, schr., lost '71.
- Pioneer, Can. prop., 28 g. t., b. '79, Napanee, in com.
- Pioneer, tug, 88 g. t., b. '87, Saginaw, in com.
- Pioneer, Can. prop., 38 g. t., b. '88, Bark Lake, in com.
- Pioneer, s. prop., 1,124 g. t., b. '93, Cleveland, in com.
- Piper, A. S., tug, 21 g. t., b. '80, Sturgeon Bay, passed out, '94.
- Pitcairn, bge., 171 g. t., b. '90, in com.
- Pittsburg, prop., 606 t., b. Cleveland, '57, later barge Cyclone.
- Planet, schr., 25 t., b. Cleveland, '45.
- Planet, slp., b. Geneva, O., '49, capsized on trial trip.
- Planet, stmr., 1,164 t., b. Newport, '55, dismantled, '66, made the barge Northwest.
- Planet, scow, b. '55, Black River, O.
- Planet, schr., 473 g. t., b. '72, Marine City, in com.
- Planet, schr., 159 g. t., later the John C. Bauer.
- Plankinton, John, prop., 1,821 g. t., b. '89, West Bay City, in com.
- Platt, James, schr., abandoned at Straits, '74.
- Playfair, J., Can. tug, 28 n. t., b. '94, Collingwood, in com.
- Pleasure, prop., 489 g. t., b. '94, West Bay City, in com.
- Plough Boy, Can. stmr., 450 t., b. Chatham, '57, re-named the T. F. Parks, burned '70.
- Plough Boy, scow, wrecked Black River, L. Erie, '61.
- Plow Boy, schr., 41 g. t., b. '75, Wilson, N. Y., in com.
- Plow Boy, prop., 114 g. t., b. '87, West Bay City, in com.
- Plow Boy, schr., 239 t., b. Ashtabula, '62.
- Plover, Can. tug, 52 n. t., b. '63, Montreal, in com.
- Plover, schr., sunk near Whitefish Point, '71.
- Plugger, A., schr., sunk near South Haven, '81.
- Plumb, Henry, tug, 92 g. t., b. '74, Buffalo, in com.
- Plummer, H. C., prop., burned '88.
- Plymouth, schr., 740 t., b. '53, wrecked L. Sup., '87.
- Plymouth, stmr., 846 t., b. Cleveland, '54.
- Plymouth, schr., 776 g. t., b. '85, Ohio City, in com.
- Plymouth Rock, schr., 293 t., b. '52, burned Detroit, '84, rebuilt, '85.
- Plymouth Rock, stmr., 1,991 t., b. Buffalo, '54, dismantled '57.
- Pocahontas, prop., 420 t., b. Buffalo, '46, lost Long Point, '62.
- Pocahontas, Can. prop., 32 g. t., b. '85, Muskoka, in com.
- Point Abino, prop., 304 g. t., b. '72, Buffalo, in com.
- Poland, schr., wrecked, '57, L. Mich.
- Polaris, Can. fry., 538 n. t., b. '83, Levis, in com.
- Polk, James K., slp., wrecked L. Mich., '45, 7 lives lost.
- Pollux, stcb., 118 g. t., b. '80, Tonawanda, in com.
- Polly, Can. schr., b. on Bay of Quinte, passed out.
- Polynesia, schr., 940 t., b. '85, sunk L. Mich., '87.
- Polynesia, bge., 3,562 g. t., b. '97, Cleveland, in com.
- Pomeroy, Isaac, schr., b. Marine City, about '25.
- Pomeroy, S. B., schr., 406 g. t., b. '56, Cleveland, in com.
- Pontiac, stmr., boiler exploded, Grand Haven, '64, 3 lives lost.
- Pontiac, s. prop., 2,298 g. t., b. '89, Cleveland, in com.
- Pope, E. C., prop., 2,637 g. t., b. '91, Wyandotte, in com.
- Porcupine, U. S. schr., 83 t., 1 gun, b. Erie, '13, in battle Lake Erie, repaired and used on lakes many years.
- Porcupine, Can. stmr., burned Prescott, '55.
- Pt. Elgin Queen, Can. tug, 43 n. t., b. '86, Port Elgin, in com.
- Port Henry, schr., b. Cape Vincent, before '53.
- Portage, schr., 260 t., b. Portage, '62, sunk off Port Rowan, '78.
- Portage, prop., 1,608 g. t., b. '75, Buffalo, in com.
- Portch, E. M., schr., sunk L. Mich., '71.
- Porter, prop., 310 t., b. Buffalo, '44, wrecked '47.
- Porter, schr., 747 g. t., b. '74, Milwaukee, lost in ocean service, '98.
- Porter, Admiral D. D., i. tug, 195 g. t., passed up from seaboard, '67, later the Howard.
- Porter, Gen., stmr., 342 t., b. Black Rock, '34, in '43 made the Can. prop. "Toronto."
- Porter, Lloyd S., prop., 536 g. t., b. '93, Port Huron, sunk St. Lawrence r., '98.
- Porter, J. U., schr., 149 g. t., b. '68, Black River, O., in com.
- Portland, schr., 394 t., b. Three Mile Bay, L. Ont., '47, wrecked L. Hur. '67.
- Portland, sty., 9 g. t., b. '92, Brooklyn, passed out, '97.
- Portland, sty., 11 g. t., b. '93, Chicago, passed out, '97.
- Portsmouth, prop., 525 t., b. Buffalo, '52, lost L. Huron, '67.
- Portsmouth, Can. bge., 131 g. t., b. '82, Ottawa, in com.
- Post Boy, stmr., carried first cargo wheat from Michigan City, '36.
- Post Boy, schr., lost L. Mich., '41, 10 lives lost.
- Post Boy, schr., lost near Dunkirk, '62.
- Post Boy, prop., 123 g. t., b. '88, West Bay City, in com.
- Post Boy, tug, 11 g. t., b. '94, Buffalo, in com.
- Post, H. C., schr., b. '66, Black River, O.
- Potomac, schr., 208 t., b. Cape Vincent, '42, wrecked Frankfort, '83.
- Potomac, schr., 659 g. t., b. '55, Cleveland, passed '95.
- Pottawatomie, tug, 18 g. t., b. '71, Green Bay, in com.
- Potter, Agnes L., schr., 279 g. t., b. '70, St. Clair, in com.
- Potter, H. C., schr., 308 t., b. E. Saginaw, '68, lost, '91, L. Hur.
- Potter, George R., tug, 133 g. t., b. '87, Buffalo, in com.
- Potts, J. E., schr., 566 g. t., formerly Mohawk, b. '56, Cleveland, in com.
- Poupore, W. J., Can. prop., 67 n. t., b. '81, Montreal, in com., formerly Rigaud.

- Powell, C. B., Can. prop., 272 g. t., b. '87, Pembroke, in com.
- Powell, Linnie, Can. schr., wrecked near Buffalo, '59.
- Powerful, stmr., burned Quebec, '77.
- Powers, Col., schr., 80 t., b. Three Mile Bay, L. Ont., '43.
- Powers, D. W., prop., 302 g. t., b. '71, Marine City, later the George W. Johnson.
- Prairie Flower, tug, passed out.
- Prairie State, prop., liner in '52, sunk L. Erie, '64.
- Pratt, C. N., bge., burned Windsor, '85.
- Pratt, C. W., cbt., 135 g. t., b. '97, in com.
- Pratt, Helen, schr., 194 g. t., b. '70, Buffalo, in com.
- Pratt, John, Can. tug, 124 n. t., b. '81, Montreal, in com.
- Pratt, Lillie, schr., 204 g. t., b. '69, Buffalo, wrecked L. Mich., '92.
- Pratt, Pascal P., prop., 1,927 g. t., b. '88, Cleveland, in com.
- Pratt, Zadoc, bark, sunk L. Erie, '60.
- Preble, Com., brig, b. Buffalo, '42, in com., '68.
- Prefontaine, Can. prop., 200 n. t., b. '96, Sorel, in com.
- Premier, Can. schr., sunk, '58.
- Prentice, James H., prop., 335 g. t., b. '55, Trenton, in com.
- Prendville, prop., wrecked near Oscoda, '82.
- Prescott, schr., foundered York bay, '31.
- President No. 1, schr., b. '29, Black River, O., capsized L. Erie, '36, 4 lives lost.
- President No. 2, schr., b. '41, Black River, O.
- President, stmr., b. Oswego, '42.
- President, Can. scow, 189 g. t., b. '69, St. Catharines, in com.
- Presley, George, prop., 1,936 g. t., b. '89, Cleveland, in com.
- Presque Isle, s. prop., 5,750 g. t., b. '98, Lorain, in com.
- Presque Isle, prop., 4,500 g. t., b. '98, Lorain, in com.
- Presto, schr., 183 t., b. Huron, O., '57, wrecked Sand Beach, '97.
- Preston, prop., 472 g. t., b. '91, Green Bay, in com.
- Preston, Maud, prop., 175 g. t., b. '86, St. Joseph, burned Toledo, '98.
- Preston, W. J., schr., 500 t., lost, '88.
- Pride, schr., 83 g. t., b. '49, Sandusky, in com.
- Pride, schr., capsized near Venice, '56.
- Pride, schr., 69 g. t., b. '66, Black River, O., in com.
- Pride, schr., 24 t., b. Milwaukee, '68.
- Pride of America, Can. schr., 350 t., b. '63, wrecked L. Ont., '87.
- Pride of America, Can. schr., 285 g. t., b. '67, St. Catharines, in com.
- Pride of Canada, bark, wrecked St. Lawrence r., '62.
- Pridgeon, John, Jr., 1,211 g. t., b. '75, Detroit, in com.
- Prime, J. B., schr., 148 g. t., b. '66, Fairport, passed out, '96.
- Primrose, schr., in com., '56.
- Primrose, Can. stmr., 247 n. t., b. '90, Toronto, in com.
- Prince Albert, Can. schr., wrecked Long Point, '51.
- Prince Alfred, schr., 296 g. t., b. '63, Kingston, wrecked, '94.
- Prince Edward, Can. schr., b. Marysburg, 1800, broken up.
- Prince Edward, Can. stmr., 150 g. t., b. '41, Gardner, burned L. Ont., '84.
- Prince Edward, Can. schr., 18 g. t., b. '87, Summer-side, in com.
- Prince Edward Ferry, Can. stmr., 18 g. t., b. '85, Deseronto, in com.
- Prince Eugene, Can. stmr., 104 t., b. '32.
- Prince Eugene, schr., wrecked St. Joseph r., '35.
- Prince, F. H., prop., 2,047 g. t., b. '90, Detroit, in com.
- Prince, John F., scow, b. '64, Black River, O.
- Prince of Peace, scow, in com., '56.
- Prince of Wales, Can. schr., 200 g. t., b. '42, Kingston.
- Prince Regent, Brit. v., 22 guns, on L. Ont., '12.
- Prince Regent, Brit. ship, 1,450 t., b. L. Ont., '14, 38 guns.
- Prince Royal, Can. stmr., 500 g. t., b. '41, Niagara.
- Princess, stmr., 109 t., b. Algonac, '58, broken up, '69.
- Princess, Can. stmr., 331 n. t., b. '72, Carillon, in com.
- Princess, Can. bge., 336 n. t., b. '74, Montreal, in com.
- Princess Charlotte, Brit. ship, 1,215 t., b. L. Ont., '14, 42 guns.
- Princess Alexandria, schr., formerly the Marshfield.
- Princess Louise, Can. prop., 95 n. t., b. '79, Long Island, in com.
- Princess Louise, Can. prop., 35 n. t., b. '79, Ogdensburg, in com.
- Princess of Wales, Can. schr., b. '64, Toronto, burned, '86.
- Princess Royal, Can. stmr., b. Niagara, '42.
- Prince William, Can. stmr., b. '42.
- Princeton, prop., 450 t., b. Perrysburg, '45, sunk L. Erie, '54.
- Prindville, R., tug, 24 g. t., b. '63, Chicago, in com.
- Pringle, tug, made Can. tug International, '84.
- Pringle, John C., 474 g. t., formerly W. H. Gratwick, b. '80, Detroit, in com.
- Pringle, Mary, prop., 204 g. t., b. '67, Trenton, Mich., burned Port Huron, '93.
- Pringle, Wm. H., tug, burned near Port Huron, '77, made schr., '83.
- Prior, Nellie, tug, in com., '88.
- Priscilla, scy., 75 g. t., b. '85, in com.
- Proctor, E. R. C., Can. schr., 163 g. t., b. '78, Brighton, in com.
- Proctor, M., Can. schr., now the Can. schr. Snow Bird.
- Proctor, Minnie, schr., wrecked L. Ont., '68.
- Proctor, Wm. L., tug, 117 g. t., b. '83, Buffalo, in com.
- Prodigy, tug, 80 g. t., b. '97, West Bay City, in com.
- Progress, schr., in com., '68.
- Progress, prop., 1,596 g. t., b. '80, Milwaukee, in com.
- Promise, prop., 473 g. t., b. '92, Detroit, in com.
- Prospect, slp., 10 g. t., b. '96, Fruitport, Mich., in com.
- Protection, prop., sunk by col., St. Lawrence r., '56.
- Protection, Can. prop., passed out.
- Protection, tug, 60 g. t., b. '73, Chicago, in com.
- Protection, prop., 91 g. t., b. '88, Sault Ste. Marie, in com.
- Protector, i. tug, 277 g. t., b. '75, Wilmington, Del., in com.
- Providence, sty., 11 g. t., b. '93, Chicago, passed out '97.
- Provincial, Can. stmr., 300 t., in com. '56.
- Provost, schr., 95 t., b. '64, wrecked L. Hur., '87.
- Psyche, Brit. frigate, b. Kingston, '14.
- Prudence, schr., b. Cleveland, '21.
- Prussia, Can. stmr., liner in '72.
- Prussia, Can. prop., burned L. Sup., '85.
- Prussia, Can. bge., 428 n. t., b. '79, Garden Island com., formerly schooner.
- Pryor, Ethel J., tug, 18 g. t., b. '90, Houghton, in com.
- Pry, Paul, stmr., b. Heuvelton, N. Y., '30.
- Pueblo, prop., 1,349 g. t., b. '91, Milwaukee, in com.
- Pugsley, John, Can. schr., 50 g. t., b. '68, Sandusky, in com.
- Pulaski, schr., in com., '41.
- Pulaski, schr., 332 t., b. '73, wrecked Good Harbor bay, '87.
- Pullar, Jim, tug, 39 g. t., b. '94, Sault Ste. Marie, in com.
- Pup, tug, 13 g. t., b. '94, Saugatuck, in com.
- Purdy, Virginia, schr., 307 t., b. Cleveland, '47, wrecked L. Erie, '59.
- Puritan, schr., wrecked Buffalo, '66.

- Puritan, Can. slp., 171 n. t., b. '71, Montreal, in com., formerly steamer.
- Puritan, prop., 289 g. t., b. '87, Benton Harbor, burned '95.
- Puritan, stcb., 126 g. t., b. '92, Buffalo, in com.
- Puritan, sty., 20 g. t., b. '92, Buffalo, in com.
- Puritan, prop., 409 g. t., b. '93, Buffalo, in com.
- Puritan, tug, 10 g. t., b. '94, Buffalo, in com.
- Puritan, sly, 8 g. t., b. '95, in com.
- Quadra, Can. prop., 573 g. t., b. '91, Renfrewshire, in com.
- Quaker City, stmr., in com., '67.
- Quayle, Thomas, tug, 300 t., b. Cleveland, '67, burned Ontonagon, '85.
- Quayle, tug, in com., '68.
- Quayle, Thomas, schr., 893 g. t., b. '72, Cleveland, in com.
- Quebec, Can. prop., 812 t., b. Chatham, Ont., '74, sunk St. Mary's r., '85.
- Quebec, Can. brig, 235 t., b. Wolf island, L. Ont., before '52.
- Quebec, prop., 1,003 g. t., later the F. E. Spinner.
- Quebec, Can. prop., 121 n. t., b. '67, Bedford Mills, in com.
- Quebec, Can. stmr., 1,084 n. t., b. '65, Sorel, in com.
- Quebec, Can. bge., 234 g. t., b. '62, Garden Island, in com.
- Queen, Can. prop., 7 g. t., b. '83, Roach's Point, in com.
- Queen, Can. stmr., 64 t., b. Dunville, '51.
- Queen, tug, 29 g. t., b. '97, Buffalo, in com.
- Queen, Can. schr., 375 t., sailed Toronto to Liverpool, '58.
- Queen, Can. fry., 476 n. t., b. '86, Levis, in com.
- Queen Ann, sty., 14 g. t., b. '96, Detroit, in com.
- Queen Charlotte, armed ship, 400 t., 17 guns, b. Amherstburg by Can. Govt., '99, captured in battle L. Erie, sunk Erie, afterwards raised and fitted out for lake trade.
- Queen Charlotte, Can. stmr., formerly Lady of the Lake, burned Toronto, '55.
- Queen Charlotte, Can. schr., 150 g. t., b. '18, Ernestown, broken up.
- Queen City, prop., 3,980 g. t., b. '96, Cleveland, in com.
- Queen City, stmr., 1,000 t., b. Buffalo, '48, made barge, lost L. Hur., '66.
- Queen City, schr., 675 g. t., b. '73, East Saginaw, wrecked Hog Island reef, '95.
- Queen City, tug, 22 g. t., b. '75, Buffalo, passed out, '97.
- Queen City, Can. prop., 312 n. t., b. '74, Wallaceburg, in com., formerly J. W. Steinhoff.
- Queen City, Can. prop., now the Can. prop. Ongiara.
- Queen City, Can. stmr., 450 g. t., b. '42, Niagara, burned Toronto, '55.
- Queen of the Bay, schr., 73 t., wrecked near Oswego, '67.
- Queen of the Isles, Can. prop., 40 g. t., b. '85, Orillia, in com.
- Queen of the Lakes, prop., 563 t., b. '55, Black River, O., burned Marquette, '69.
- Queen of the Lakes, i. stmr., 153 g. t., b. '72, Wyandotte, burned South Manitou, '98.
- Queen of the Lakes, schr., 347 t., wrecked Brighton, '86.
- Queen of the Lakes, Can. schr., 374 n. t., b. '58, Portsmouth, in com.
- Queen of the North, Can. brig, 347 g. t., b. '61, Nottawasaga, in com.
- Queen of the West, Can. prop., b. Malden, '46, burned Hamilton, '53.
- Queen of the West, Can. stmr., 700 g. t., b. '52, Oswego.
- Queen of the West, stmr., 1,852 t., b. Buffalo, '53, dismantled, '59.
- Queen of the West, schr., 347 t., b. L. Ont., '61, wrecked Bailey's Harbor, '82.
- Queen of the West, prop., 818 g. t., b. '81, Bay City, in com.
- Queen Victoria, Can. stmr., 200 t., b. '37, wrecked L. Erie, '51.
- Queen Victoria, Can. schr., b. Garden Island, '39.
- Queen Victoria, Can. stmr., 349 t., b. '68, burned L. Erie, '83.
- Queenston, Can. stmr., 350 g. t., b. '24, Queenston.
- Quickstep, schr., 282 g. t., formerly S. Anderson, damaged '69, passed out.
- Quickstep, tug, 10 g. t., b. '69, Buffalo, in com.
- Quickstep, schr., 283 g. t., b. '74, Green Bay, in com.
- Quimby, L. L., schr., 87 g. t., b. '63, New Baltimore, Mich., in com.
- Quincy, stmr., 360 t., b. Buffalo, '57.
- Quinlon, Eliza, Can. schr., 131 g. t., b. '70, Port Hope, in com.
- Quito, prop., 1,372 g. t., b. '73, Bangor, Mich., in com., formerly David Ballentine.
- Quinte, Can. stmr., burned L. Ont., '89, 4 lives lost.
- Quinze, Can. prop., 32 g. t., b. '91, Montreal, in com.
- Raab, Charlotte, schr., 191 g. t., b. '70, Sheboygan, in com.
- Raab, Lucy, schr., wrecked Middle Island reef, '62.
- Raber, John, schr., 223 g. t., formerly Gen. Worth, b. '48, Cleveland, stranded L. Mich., '95.
- Raber, Violet H., tug, 50 g. t., formerly Ivy M. Leatham, b. '91, Manitowoc, in com.
- Racer, schr., 30 t., b. about '18.
- Racer, brig, 377 t., total loss, '69.
- Rachel, schr., 35 t., b. Sandusky, '15.
- Rachel, Can. schr., sunk Welland canal, '51.
- Racine, brig, lost near Milwaukee, '55.
- Racine, prop., 150 t., b. '43, Oswego, made a sail v., lost L. Erie, '49.
- Racine, schr., 168 g. t., b. '44, Cleveland, wrecked, '92, L. Hur.
- Racine, prop., burned off Rondeau, '64, 8 lives lost, bottom made a bark.
- Racine, Can. prop., b. '64, formerly City of Toronto, then called Algona in '84.
- Radiant, schr., foundered L. Erie, '57, 10 lives lost.
- Radical, schr., 177 g. t., b. '65, Detroit, in com.
- Rae, R. H., Can. bark, capsized L. Ont., '58.
- Raesser, Lydia E., schr., 131 g. t., b. '47, Cleveland, formerly Gipsy, in com.
- Rainbow, schr., wrecked Put-in-Bay, '37.
- Rainbow, scow, 15 t., b. '36, wrecked near Barcelona, '48.
- Rainbow, schr., 117 t., b. Sheboygan, '45.
- Rainbow, schr., 256 g. t., b. '55, Buffalo, wrecked '94, L. Mich.
- Rainbow, tug, 16 g. t., b. '94, Erie, in com.
- Raleigh, schr., 212 t., b. '48, lost Portage Bay, '69.
- Raleigh, prop., 1,205 g. t., b. '71, Cleveland, in com.
- Ralph, tug, 42 g. t., formerly H. E. Miller, b. '74, Saginaw, in com.
- Ralph, P. J., prop., 964 g. t., b. '89, Marine City, in com.
- Ralston, Jane, schr., 260 g. t., b. '66, Gibraltar, in com.
- Ramapo, s. prop., 3,045 g. t., b. '96, Buffalo, in com.
- Rambler, schr., on lakes about '16.
- Rambler, schr., 137 t., b. '47, Black River, O., wrecked L. Mich., '65.





STEEL STEAMER YUMA.



- Rambler, tug, 42 g. t., b. '73, Buffalo, passed out, '97.  
 Rambler, slpy., 14 g. t., b. '80, Kenosha, in com.  
 Rambler, schr., 26 g. t., b. '81, St. Clair, in com.  
 Rambler, bge., 193 g. t., b. '87, in com.  
 Ramsdell, Homer, schr., ashore L. Mich., '55.  
 Ramsey, W. S., tug, bought by U. S. Gov., '63, for Mississippi river service.  
 Ramona, sty., 57 g. t., b. '86, Newburgh, N. Y., in com.  
 Rand, prop., 191 g. t., b. '86, Manitowoc, in com.  
 Rand, G. C., schr., 112 t., b. Point Peninsula, L. Ont. '37.  
 Rand, G. L., schr., ashore Fish Creek, '69.  
 Rand, H., schr., 124 g. t., b. '56, Manitowoc, in com.  
 Randolph, Wm., prop., 209 t., burned L. St. Clair, '86.  
 Ranger, schr., 30 t., b. Buffalo, '06.  
 Ranger, stmr., lost near Port Stanley, '66.  
 Ranger, Can. schr., 21 g. t., b. '77, Suspension Bridge, in com.  
 Ranger, Can. prop., 53 g. t., b. '84, Lindsay, in com.  
 Ranger, Can. prop., 8 g. t., b. '88, Walkerville, in com.  
 Ranger, Can. tug, 14 n. t., b. '88, Kingston, in com.  
 Rankin, Mary Ann, schr., 126 t., wrecked Port Colborne, '70.  
 Ranney, Rufus P., prop., 1,392 g. t., b. '81, Cleveland, in com.  
 Ransom, Harvey, schr., 28 g. t., b. '87, South Haven, in com.  
 Ransom, J. C., tug, capsized L. Erie, '72.  
 Rapid, Buffalo tug, leased by U. S. Gov., '61.  
 Rapid, schr., sunk L. Erie, '62, by col., 1 life lost.  
 Rapid, schr., capsized L. Erie, '72, 7 lives lost.  
 Rapid, Can. bge., 221 g. t., b. '74, Quebec, in com.  
 Rapid City, Can. schr., 39 n. t., b. '87, Oakville, in com.  
 Rappahanock, prop., 2,380 g. t., b. '95, West Bay City, in com.  
 Raser, George B., s. ligh'r., 369 g. t., b. '96, Ashtabula, in com.  
 Rathbun, H. B., schr., 149 t., b. Mill Point, '65.  
 Rathburn, E. W., schr., 200 t., wrecked L. Hur., '86.  
 Rattlesnake, Can. scow, 114 g. t., b. '69, Port Dalhousie, in com.  
 Raven, U. S. transport, L. Ont., '12.  
 Raven, schr., wrecked Menominee, '85.  
 Ravenna, bark, made two voyages to Europe '63, wrecked Cape Henry, '64.  
 Rawson, Levi, schr., 361 g. t., b. '61, Black River, O., in com.  
 Rawson, L. Q., tug, 14 g. t., b. '66, Sandusky, in com.  
 Ray, Lulu M., tug, 20 g. t., b. '88, Luddington, in com.  
 Raynor, Annie C., schr., wrecked L. Hur., '63.  
 Raynor, William, schr., 227 g. t., b. '62, Milan, O., in com.  
 Read, C. E., Can. sty., 12 g. t., b. '94, Simcoe, in com.  
 Rebecca, brig, 214 t., b. Huron, '42.  
 Rebecca, schr., sunk near Detour, '60, stranded Alabaster, '72.  
 Rebel, tug, 28 g. t., b. '71, Buffalo, foundered L. Sup. '98.  
 Reciprocity, schr., damaged by col., '63.  
 Reckinger, P., tug, 43 g. t., b. '92, Sheboygan, in com.  
 Record, i. tug, 59 g. t., b. '84, Cleveland, sunk Duluth, '98, 3 lives lost, tug raised.  
 Recovery, schr., b. Lake Sup., '09, ran the rapids, wrecked near Buffalo.  
 Red Bird, Can. scow, 39 g. t., b. '70, Hamilton, in com.  
 Red Bottom, schr., aground Middle Island reef, '76.  
 Red Cloud, schr., 8 g. t., b. '75, Bay Port, Mich., in com.  
 Red Cloud, tug, 40 g. t., b. '82, Buffalo, in com.  
 Red Cloud, schr., 9 g. t., b. '91, Detroit, in com.  
 Red Island, Can. schr., 152 g. t., in com.  
 Red Jacket, schr., 53 t., sailed L. Erie, '25.  
 Red Jacket, stmr., 148 t., b. Grand Island, '38, dismantled, '48.  
 Red Jacket, tug, boiler exploded and tug sunk, Chicago, '66.  
 Red Jacket, bge., 310 g. t., b. '92, in com.  
 Red Rover, Can. schr., 120 g. t., b. '19, probably York.  
 Red, White and Blue, schr., 447 g. t., b. '63, Madison Dock, O., wrecked Whaleback shoal, '95.  
 Red, White and Blue, schr., 39 g. t., b. '87, Oakley, Mich., in com.  
 Red Wing, tug, 13 g. t., b. '72, Detroit, passed out '97.  
 Red Wing, schr., 722 g. t., b. '73, Tonawanda, chartered for ocean, '98.  
 Reddick, schr., later the Samuel Hale.  
 Redfern, C. E., schr., 680 g. t., b. '90, West Bay City, in com.  
 Redford, Eliza J., tug, 35 g. t., b. '81, Oswego, passed out, '97.  
 Redington, Nellie, schr., 816 g. t., b. '72, Cleveland, in com.  
 Reed, Isabel, 548 g. t., b. '81, Marine City, in com.  
 Reed, James A., tug, 88 t., b. '63, burned, Sturgeon bay, '87.  
 Rees, W. D., s. prop., 3,760 g. t., b. '96, Cleveland, in com.  
 Reeve, Can. scow, 100 g. t., b. '65, Thorold, in com.  
 Reeve, C., schr., 299 t., sailed Detroit to Liverpool, '58, sunk L. Ont., '62.  
 Regina, schr., b. '66, foundered off Cove island, '81.  
 Regina, Can. bge., 478 n. t., b. '78, St. Catharines, in com., formerly prop. Europe.  
 Reginald, Can. tug, 228 n. t., b. '94, Garden Island, in com.  
 Regiment, Can. schr., 100 t., b. York, '20.  
 Regulation, schr., b. '66.  
 Regulator, bge., burned Detroit r., '71.  
 Regulator, schr., ashore St. Joseph, '83.  
 Reid, Conrad, schr., 288 g. t., b. '81, Lorain, O., in com.  
 Reid, J., schr., b. '52, Black River, O.  
 Reid, Nellie, Can. tug, 97 n. t., b. '86, Buffalo, in com.  
 Reid, R. C., prop., 322 g. t., b. '89, Saugatuck, later City of Louisville.  
 Reid, Kate, tug, burned Saginaw, '73.  
 Reindeer, Can. gun boat, 66 t., b. York, '14, broken up.  
 Reindeer, schr., b. Clayton, L. Ont., capsized L. Erie, '38.  
 Reindeer, Can. stmr., wrecked Point Sauble, '42, 19 lives lost.  
 Reindeer, schr., lost near Chicago, '55.  
 Reindeer, Can. schr., sailed Toronto to Liverpool, '55.  
 Reindeer, stmr., 320 t., b. Saginaw, '63.  
 Reindeer, Can. stmr., wrecked '57, L. Mich., 23 lives lost.  
 Reindeer, schr., 191 g. t., b. '60, Clayton, N. Y., wrecked Black River, '95.  
 Reindeer, schr., 207 g. t., b. '63, East Saginaw, in com.  
 Reindeer, schr., 305 g. t., b. '70, Detroit, in com.  
 Reindeer, stmr., 498 g. t., b. '81, Alburg, Vt., in com.  
 Reindeer, Can. prop., 65 n. t., b. '84, Kingston, in com.  
 Reitz, Chas., prop., 245 g. t., b. '72, Trenton, Mich., in com.  
 Reliable, prop., 97 g. t., b. '80, Detroit, in com.  
 Reliance, Can. prop., 265 n. t., b. '81, Deseronto, in com.  
 Reliance, Can. stmr., 74 n. t., b. '87, Sorel, in com.  
 Reliance, Can. tug, 308 n. t., b. '93, Collingwood, in com.  
 Reliance, Can. stmr., burned, '96.  
 Relief, tug, 362 t., b. Buffalo, '55.  
 Relief, tug, capsized Sorel, Can., '68, 2 lives lost.  
 Relief, Can. bge., 50 g. t., b. '75, Port Lambton, in com.  
 Relief, tug, 34 g. t., formerly Michael Brand, b. '78, Chicago, in com.



- Relief, tug, burned Sandusky, '84.  
 Remora, prop., 184 g. t., b. '83, Detroit, sunk St. Ignace, '92.  
 Rennie, G. A., Can. tug, 15 n. t., b. '88, Mesford, in com.  
 Republic, schr., 314 g. t., b. '54, Clayton, sunk off Lorain, '95.  
 Republic, prop., 462 t., b. Cleveland, '48, burned Sandusky, '57.  
 Republic, schr., 299 t., wrecked Grand Island, '86.  
 Republic, prop., 1,343 g. t., later the Marquette.  
 Republic, s. prop., 2,316 g. t., b. '90, Cleveland, ashore L. Hur., '98.  
 Republican, schr., wrecked on island of Arbacatom, '60.  
 Rescue, tug, 275 t., b. Buffalo, '55.  
 Rescue, Can. stmr., 450 g. t., b. Toronto, '55.  
 Rescue, Can. gunboat, b. England.  
 Rescue, tug, 37 g. t., b. '85, Burlington, Vt., in com.  
 Rescue, Can. tug, 62 n. t., b. '85, Deseronto, in com.  
 Rescue, Can. prop., 7 g. t., b. '86, Toronto, in com.  
 Rescue, Can. prop., 20 g. t., b. '87, Collingwood, in com.  
 Resolute, schr., b. '56, Black River, O., sunk Erie '71.  
 Resolute, Can. schr., 80 g. t., b. '57, Port Credit, in com.  
 Resolute, tug, 23 t., b. Detroit, '72, burned Green Bay, '85.  
 Resolute, Can. prop., 376 n. t., b. '83, Deseronto, in com.  
 Restless, scow, wrecked Ludington, '79.  
 Restless, schr., 51 g. t., b. '67, Holland, Mich., passed out, '94.  
 Restless, schr., 10 g. t., b. '81, Ludington, passed out, '97.  
 Restless, i. sty., 104 g. t., b. '87, Marcus Hook, Penn., in com.  
 Restless, sly., 8 g. t., b. '89, Cleveland, in com.  
 Result, schr., 11 g. t., b. '96, Detroit, in com.  
 Resumption, schr., 293 g. t., b. '79, Milwaukee, in com.  
 Return, schr., b. '55, Black River, O., wrecked Long Point, '63.  
 Reverie, bge., 65 g. t., b. '93, in com.  
 Revolving Light, schr., stranded '60.  
 Reynolds, stmr., burned Bay City, '72.  
 Reynolds, G. W., stmr., 171 t., b. Toledo, '64, burned '66, rebuilt.  
 Reynolds, S. C., i. prop., 1,895 g. t., b. '90, Buffalo, in com.  
 Rhocean, prop., 16 g. t., b. '95, South Haven, in com.  
 Rhoda, Can. stmr., 283 n. t., b. '74, Levis, in com.  
 Rhoda, schr., 13 g. t., b. '78, Oswego, in com.  
 Rhoda Emily, prop., 570 g. t., b. '84, Trenton, Mich., in com.  
 Rhode Island, stmr., 164 t., b. Sandusky, '37, once called the St. Clair.  
 Rhodes, Dan., tug, in com., '60.  
 Rhodes, D. P., schr., 937 g. t., b. '71, Detroit, in com.  
 Rhodes, Robert E., prop., 1,576 g. t., b. '87, Cleveland, in com.  
 Rialto, scow, 100 t., stranded Long Point, '51.  
 Rice, B. W., tug, 11 t., b. '70.  
 Rice, E. E., prop., 32 g. t., b. '88, Saugatuck, in com.  
 Rice, John, schr., 153 g. t., b. '60, Newport, Mich., in com.  
 Rice, Minnie, Can. scow, 100 g. t., b. '65, Port Robinson, in com.  
 Rice, R. N., stmr., 1,030 t., b. Detroit, '66, lost '88, L. Mich.  
 Rice, T. B., bark, b. Conneaut, '66, ashore Dunkirk '71.  
 Rich, A. J., schr., wrecked Kincardine, '64.  
 Richard, C., Can. schr., 172 g. t., b. '87, Sorel, in com.  
 Richard, Can. bge., 506 n. t., b. '90, Sorel, in com.  
 Richards, Alice, schr., 278 g. t., b. '67, Manitowoc, in com.  
 Richards, Henry C., 699 g. t., b. '73, Manitowoc, founded L. Mich., '95.  
 Richards, John, schr., sunk Buffalo, '36, capsized Detroit, '42, 6 lives lost.  
 Richards, J. S., schr., 273 g. t., b. '69, Conneaut, in com.  
 Richards, May, schr., 531 g. t., b. '80, Manitowoc, in com.  
 Richards, Rube, prop., 915 g. t., b. '81, Manitowoc, in com.  
 Richards, Wm., tug, 19 g. t., b. '73, Manitowoc, in com.  
 Richardson, G., schr., 24 g. t., b. '75, Dunkirk, passed out, '94.  
 Richardson, Wal. W., tug, 22 g. t., b. '84, West Bay City, in com.  
 Richelieu, Can. stmr., boiler exploded and 3 lives lost near Montreal, '82.  
 Richelieu, Can. stmr., now stmr. Belmont.  
 Richelieu, Can. prop., 54 n. t., b. '89, Sorel, in com.  
 Richmond, Can. schr., 100 g. t., b. '20, York, wrecked.  
 Richmond, brig, 168 t., b. Richmond, '42.  
 Richmond, schr., lost L. Mich., '44.  
 Richmond, Can. schr., 81 g. t., b. '57, Amherst Island, in com.  
 Richmond, tug, 21 g. t., b. '88, Saugatuck, in com.  
 Richmond, sty., 11 g. t., b. '93, Chicago, passed out '97.  
 Richmond, Belle, sty., 12 g. t., b. '72, Wash. Island, Wis., in com.  
 Richmond, C. T., schr., 230 t., wrecked Dunkirk, '70.  
 Richmond, C. Y., tug, lost L. Hur., '68.  
 Richmond, Dean, schr., wrecked Racine, '55.  
 Richmond, Dean, schr., 375 t., b. Cleveland, '56.  
 Richmond, Dean, stmr., b. about '55, shipped full cargo wheat, Chicago to Liverpool, '56.  
 Richmond, Dean, stmr., 1,416 t., burned St. Mary's r., '71.  
 Richmond, Dean, prop., 1,432 g. t., b. '64, Cleveland, foundered L. Erie, '93, 15 lives lost.  
 Richmond, H. A., schr., 208 g. t., b. '61, Buffalo, in com.  
 Richmond, Kate, schr., ashore Old Mineral Point, '69, raised '79.  
 Richmond, Olive, brig, b. before '44, wrecked L. Mich., '54.  
 Richmond Packet, schr., afloat '23, wrecked '26.  
 Richmond, W. T., brig, 225 t., b. Racine, passed out.  
 Rideau Bell, Can. schr., 131 g. t., b. '85, Kingston, in com.  
 Ridgway, stch., 135 g. t., b. '83, Buffalo, passed out, '96.  
 Ried, Frank, Can. tug, 40 n. t., b. '86, Meaford, in com.  
 Rimouski, Can. prop., 125 g. t., b. '83, Montreal, in com.  
 Rigaud, Can. prop., now the W. J. Poupore.  
 Riggs, J. J., schr., stranded near Cleveland, '56.  
 Ringgold, schr., wrecking v., arrived Detroit from Pausasset, Mass., '66.  
 Ringleader, prop., 76 g. t., b. '89, Alexandria Bay, in com.  
 Ringleader, slp., 31 g. t., b. '89, Alexandria Bay, in com.  
 Rio Grande, schr., b. Three Mile Bay, L. Ont., '46.  
 Ripple, Can. stmr., b. '64, Toronto.  
 Ripple, Can. tug, 16 n. t., b. '81, Chatham, in com.  
 Ripple, Can. prop., 15 g. t., b. '84, Chatham, in com.  
 Ripple, Can. tug, 13 g. t., b. '74, Portsmouth, in com.  
 Ripple, y., b. Clayton, N. Y.  
 Rising Star, schr., 294 g. t., b. '65, Oswego, in com.  
 Ritchie, John, schr., 205 t., b. Algonac, '70, lost '88.

- Riter, Chas. M., tug, 32 g. t., b. '76, Buffalo, in com.  
 Ritter, J. H., bge., wrecked near Ludington, '78.  
 Rival, scow, lost '69.  
 Rival, schr., 221 g. t., b. '57, Alexandria Bay, in com.  
 Rival, Can. tug, 213 n. t., b. '73, Quebec, in com.  
 Rival, slp., 11 g. t., b. '89, Milwaukee, in com.  
 Rival, slp., 10 g. t., b. '97, Clayton, in com.  
 River Bell, Can. prop., 14 g. t., b. '91, Chalipeau Land-  
 ing, in com.  
 River Queen, prop., burned Marine City, '68, made a  
 tug.  
 River Queen, tug, 82 g. t., b. '66, Marine City, in com.  
 Riverside, schr., 278 g. t., b. '70, Oswego, lost L. Erie  
 '93.  
 Riverside, prop., 153 g. t., b. Detroit, '72, later the  
 Chauncey A. Morgan.  
 Riverside, prop., 124 g. t., b. '92, Buffalo, in com.  
 Riviere Du Loup, Can. stmr., 103 n. t., b. '73, Sorel, in  
 com.  
 Roady, slp., 5 g. t., b. '93, in com.  
 Roanoke, schr., 161 t., b. Euclid, O., '43, wrecked near  
 Muskegon, '54, 4 lives lost.  
 Roanoke, schr., wrecked L. Mich., '66.  
 Roanoke, prop., 1,069 g. t., b. '67, Cleveland, burned  
 off Fourteen Mile Point, '94.  
 Roanoke, i. prop., 423 g. t., b. '71, Wilmington, Del, in  
 com.  
 Roath, W. A., Can. tug, 52 g. t., b. '71, Port Colborne,  
 in com.  
 Robb, W. T., tug, 125 t., b. Stromness, '64.  
 Robb, W. T., Can. tug, 300 g. t., b. '66, Oakville, dis-  
 mantled Toronto.  
 Roberta, sty., 31 g. t., b. '88, Mt. Clemens, in com.  
 Roberts, schr., stranded Muskegon, '52.  
 Roberts, schr., 273 g. t., b. '56, Cleveland, in com.  
 Roberts, E. R., Can. prop., now Can. prop. City of  
 Windsor.  
 Roberts, W. H., slp., 66 g. t., b. '62, Essex, N.Y., passed  
 out, '94.  
 Robertson, Annie, tug, 22 g. t., b. '80, Toledo, in com.  
 Robertson, Duncan, tug, 37 g. t., b. '84, Grand Haven,  
 in com.  
 Robertson, Jack, stcb., 90 g. t., b. '66, Joliet, Ill., passed  
 out, '92.  
 Robin, bge., sunk St. Lawrence r., '71.  
 Robins, small schr., rebuilt as stmr. L. Ont.  
 Robinson, schr., wrecked L. Ont., '48.  
 Robinson, Chief Justice, Can. stmr., 400 t., b. Niagara,  
 '42.  
 Robinson, E., scow, lost, '69.  
 Robinson, Eva S., schr., 357 g. t., b. '71, Manistee, in  
 com.  
 Robinson, Hiram, Can. prop., 61 g. t., b. '82, Pembroke,  
 in com.  
 Robinson, J., Can. scow, 31 g. t., b. '70, Black Creek,  
 in com.  
 Robinson, Ida, schr., 21 g. t., b. '82, Sand Beach, passed  
 out, '93.  
 Robinson, Kate, schr., 283 t., damaged, '69.  
 Robinson, Ned, scow, lost, '72.  
 Robinson, Peter, Can. schr., 150 g. t., b. '34, Lake Sim-  
 coe, broken up.  
 Robinson, Samuel, schr., b. '56, sunk by col., '72.  
 Robinson, W. B., Can. schr., 45 g. t., b. '71, Port Frank,  
 in com.  
 Rob Roy, Can. bge., 470 n. t., b. '97, Picton, in com.  
 Rob Roy, slp., in com., '33.  
 Rob Roy, schr., 97 g. t., b. '68, Perry, O., in com.  
 Rob Roy, tug, 14 g. t., b. '86, Ashtabula, in com.  
 Rob Roy, Can. schr., 27 g. t., b. '83, Leamington, in  
 com.  
 Roby, George W., prop., 1,843 g. t., b. '89, West Bay  
 City, in com.  
 Rochester, stmr., 472 t., b. near Fairport, '37, made  
 bge., wrecked Erie, '52, 7 lives lost.  
 Rochester, stmr., 354 t., b. Oswego, '43.  
 Rochester, prop., 2,220 g. t., b. '80, Buffalo, in com.  
 Rock, Can. prop., 14 g. t., b. '83, Midland, in com.  
 Rockaway, schr., lost L. Hur., '58.  
 Rockaway, schr., 164 g. t., b. '64, Oswego, passed out,  
 '92.  
 Rockefeller, Frank, s. prop., 2,759 g. t., b. '96, Superior,  
 in com.  
 Rocket, schr., b. Buffalo, '56, sunk L. Hur., '60.  
 Rocket, prop., 611 t., sunk Toledo, '74.  
 Rocket, Can. stmr., 337 n. t., b. '66, Montreal, in com.  
 Rockland, Can. schr., 136 g. t., b. '81, Rockland, in com.  
 Rockland, Can. tug, 85 n. t., b. '82, Rockland, in com.  
 Rockwell, schr., 120 t., b. Milwaukee, '45, wrecked  
 near Muskegon, '55.  
 Rocky Mountains, brig, 280 t., b. Green Bay, '37,  
 wrecked L. Mich., '54.  
 Rocky Mountains, schr., b. Three Mile Bay, L. Ont., '42.  
 Rocky Mountains, scow, b. '52, Black River, O.  
 Rodolph, slp., b. '37, Black River, O.  
 Rodolphe, Can. tug, 83 n. t., b. '85, Sorel, in com.  
 Roe, Ina, Can. prop., 23 g. t., b. '77, Hamilton, in com.  
 Roebeling, John A., schr., b. '98, in com.  
 Roeder, C. J., schr., frozen in at Turtle island, '57.  
 Roelfson, bark., in com., '53.  
 Roena, scow, b. '56, Black River, O.  
 Rogers, Alide J., schr., 340 g. t., b. '62, Madison Docks,  
 total loss L. Mich., '98.  
 Rogers, Dan, schr., 324 g. t., b. '83, Buffalo, in com.  
 Rogers, George, tug, 64 g. t., b. '89, Toledo, in com.  
 Rogers, Polly M., schr., 350 t., b. Charlotte, '70.  
 Roland, prop., 124 g. t., b. '85, Sandusky, sunk, '92.  
 Rollar, William, tug, 28 g. t., b. '82, Saugatuck, in com.  
 Romana, sty., 57 g. t., b. '86, in com.  
 Roman, s. prop., 2,348 g. t., b. '91, Cleveland, in com.  
 Roman, schr., foundered L. Erie, '58, 9 lives lost.  
 Romeo, bge., lost '69, formerly stmr.  
 Romeo, stmr., 180 t., b. Detroit '45, made ferry boat, '58.  
 Romeo, prop., 61 g. t., b. '89, West Bay City, in com.  
 Romuldus, schr., 9 g. t., b. '97, N. Muskegon, in com.  
 Rooney, Loretta, Can. schr., 184 n. t., b. '66, Kingston,  
 in com., formerly Mary Taylor.  
 Rooney, Wm. E., tug, 11 g. t., b. '73, Toledo, in com.  
 Roop, Henry, schr., b. '36, lost near Sandusky, '43.  
 Root, Ada J., scow, b. '68, Black River, O.  
 Root, H. A., prop., 198 g. t., b. '86, Saugatuck, in com.  
 Root, H. D., schr., 116 g. t., b. '63, Black River, O., in  
 com.  
 Root, Matt, schr., sunk L. Mich., '63.  
 Rooth, W. A., Can. tug, 52 n. t., b. '71, Port Robinson,  
 in com.  
 Rosa, brig, 165 t., b. '41, Black River, O., lost L. Mich.,  
 '44.  
 Rosabella, Can. scow, 21 g. t., b. '72, River Puce, in  
 com.  
 Rosa, Belle, 131 g. t., b. '63, Milwaukee, in com.  
 Rosalie B., sty., 18 g. t., b. '93, Detroit, in com.  
 Rosaline, tug, 38 g. t., b. '89, Saugatuck, in com.  
 Rosaline, sty., 33 g. t., later the Volanta.  
 Roscius, schr., 227 g. t., b. '48, Cleveland, in com.  
 Roscoe, Amelia, schr., b. Cape Vincent before '53.  
 Rose, Can. schr., wrecked Georgian Bay, '51.  
 Rose, tug, 10 g. t., b. '71, Maumee, passed out, '97.  
 Rose, schr., 23 g. t., b. '80, Sheboygan, in com.  
 Rose Bud, schr., 30 g. t., b. '87, Oshkosh, in com.  
 Rose, D. F., prop., 259 g. t., b. '68, Marine City, in com.  
 Rose, Etta, schr., 11 g. t., b. '92, in com.

- Rose, Fanny M., prop., 33 g. t., b. '93, Grand Haven, in com.
- Rosedale, Can. prop., 1,778 n. t., b. Sunderland, '88, abandoned to underwriters, '97, rebuilt.
- Rosemount, 1,736 n. t., b. '96, Newcastleon, in com.
- Rosenberry, bark, b. after '50, Conneaut.
- Ross, Ella, Can. stmr., 117 n. t., b. '76, Montreal, in com., formerly Gipsy.
- Ross, Elsie, Can. prop., 10 g. t., b. '91, Carleton, in com.
- Ross, E. P., tug, 28 g. t., b. '74, Buffalo, passed out, '94.
- Ross, Harriet, schr., 179 g. t., b. '54, Buffalo, passed out, '95.
- Ross, John, schr., 65 g. t., b. '66, Essex, in com.
- Ross, J. W., schr., wrecked Buffalo, '56.
- Ross, Lewis, schr., lost, '89, near Rondeau.
- Ross, Myrtle M., prop., 156 g. t., b. '90, South Haven, in com.
- Ross, W., Can. tug, 16 n. t., b. '70, Port Robinson, in com.
- Rosseau, Can. prop., 53 g. t., b. '80, Gravenhurst, in com.
- Rosseter, A., prop., 200 t., b. Chicago, '47, wrecked L. Mich., '55.
- Rothsay Castle, Can. stmr., about 450 t., b. Niagara, '75.
- Rothsay Castle, Can. prop., 400 t., b. on Clyde, '64, for blockade runner, burned Shediak, '74, rebuilt and renamed Southern Belle.
- Rough and Ready, scow, 97 t., b. '47.
- Rough and Ready, schr., 12 g. t., b. '85, St. James, Mich., in com.
- Roumania, prop., 1,837 g. t., b. '87, West Bay City, in com.
- Rounds, W. H., schr., 308 g. t., b. '75, Tonawanda, in com.
- Rover, schr., 42 g. t., b. '73, Fort Howard, in com.
- Rover, Can. schr., 20 g. t., b. '78, Oakville, in com.
- Rover, Can. bge., 46 g. t., b. '84, Wallaceburg, in com.
- Rover, Can. tug, 51 n. t., b. '87, Owen Sound, in com.
- Rover, slpy., 5 g. t., b. '89, Cleveland, in com.
- Rover, Can. schr., 14 g. t., b. '94, Napanee, in com.
- Rover, slp., 7 g. t., b. '96, Alexandria Bay, in com.
- Roving Star, schr., 30 g. t., b. '81, Egg Harbor, Wis., passed out, '94.
- Roy, tug, 88 g. t., b. '84, Marine City, crushed by ice Stony Point, '95.
- Roy, R. T., tug, 24 g. t., b. '91, Cleveland, in com.
- Royal, Can. gunboat, b. England.
- Royal, Can. schr., 70 g. t., b. '89, Drummond's Island, in com.
- Royal Charlotte, English vessel, built 1764.
- Royal George, 510 t., Brit. v., 21 guns, on L. Ont., '12, afterwards the Niagara.
- Royal Oak, schr., sunk Port Stanley, '56.
- Royal Susan, schr., ashore Long Island, '51.
- Royce, Alice, schr., 14 g. t., b. '90, Saugatuck, in com.
- Royce, E. P., schr., 249 t., b. Sack Bay, Mich., '73, wrecked Cana island, '93.
- Ruby, stmr., 251 t., b. Newport, '51, broken up.
- Ruby, schr., total wreck Sheboygan, '68.
- Ruby, bge., burned Detroit r., '71.
- Ruby, Can. tug, 44 n. t., b. '78, Brockville, in com.
- Ruby, schr., 106 g. t., b. '75, Trenton, passed out, '95.
- Ruby, tug, 17 g. t., b. '89, Manistee, in com.
- Ruby, tug, 33 g. t., b. '86, Saugatuck, in com.
- Ruby, J. S., prop., 123 g. t., b. '81, Fair Haven, Mich., burned, '91.
- Rucker, ferry boat, b. Detroit, '98, in com.
- Rudolph, prop., stranded Marblehead, '81.
- Rudolph, Wm., prop., 267 g. t., b. '80, Mt. Clemens, in com.
- Ruelle, Grace A., tug, 13 g. t., formerly John Nice, b. '77, Brooklyn, N. Y., in com.
- Rugby, scow, lost L. Erie, '62, with 7 lives.
- Rugee, John, prop., 1,216 g. t., b. '88, Milwaukee, in com.
- Ruggles, S. B., schr., ashore L. Erie, '38.
- Ruggles, S. B., brig, 184 t., lost near Buffalo, '51.
- Rumage, S. S., tug, 64 g. t., b. Cleveland, '63, later the Charlie O. Smith.
- Rumball, Jennie, Can. schr., 110 t., b. Goderich, wrecked 40 miles north Goderich.
- Rumbell, Jos. F. Jr., tug, 16 g. t., b. '71, Milwaukee, passed out, '93.
- Rumbell, J. E., prop., 108 g. t., b. '83, Portage Harbor, in com.
- Rung Bros., sty., 18 g. t., b. '84, Buffalo, N. Y., in com.
- Runnels, D. N., tug, 37 g. t., b. '90, Port Huron, in com.
- Runnels, H. E., prop., 862 g. t., b. '93, Port Huron, in com.
- Rush, schr., 50 t., b. Three Mile Bay, L. Ont., '45, capsized L. Erie, '51.
- Rush, scow, b. '53, Black River, O.
- Rush, Benj., U. S. rev. cut., 35 t., b. Erie, '28.
- Russell, schr., 630 t., b. Toledo, '70, sunk by col. St. Mary's r., '82, 3 lives lost.
- Russell, Can. tug, 90 n. t., b. '96, Rockland, in com.
- Russell, Frank, Can. bge., 370 n. t., b. '71, Quebec, in com.
- Russell, Geo. D., schr., 658 g. t., later the Checotah.
- Russell, J. Scott, prop., 1,192 g. t., b. '89, Duluth, in com.
- Russia, schr., 140 g. t., later the Eugenia Vesta.
- Russia, i. prop., 1,501 g. t., b. '72, Buffalo, in com.
- Russian, schr., 305 g. t., b. '62, Oswego, in com.
- Rust, David W., prop., 884 g. t., b. '73, Saginaw, in com.
- Ruth, sty., 28 g. t., b. '82, Camden, N. J., in com.
- Rutherford, E. H., Can. schr., 356 n. t., b. '69, Port Dalhousie, in com.
- Rutter, J. H., schr., 1,224 g. t., b. '73, Marine City, chartered ocean, '98.
- Ryan, prop., foundered Port Austin, '90.
- Ryan, Charles C., tug, 28 g. t., b. '81, Lockport, in com.
- Ryan, Charles N., schr., 411 g. t., b. '73, Sandusky, wrecked Ludington, '96.
- Ryan, T. M., bge., wrecked Point Albino, '75.
- Ryerson, Carrie A., tug, 58 g. t., b. '83, Grand Haven, in com.
- Sabino, tug, left lakes for New Orleans, '60.
- Sachem, prop., 739 g. t., b. '89, Grand Haven, in com.
- Sacramento, scow, capsized off Buffalo, '51.
- Sacramento, schr., wrecked Gull Island reef, '67.
- Sacramento, Can. scow, 158 g. t., b. '70, Welland, in com.
- Sacramento, prop., 2,380 g. t., b. '95, West Bay City, in com.
- Sadie, slp., 14 g. t., b. '83, Chicago, in com.
- Sadie, Can. stmr., now the Can. stmr. Shamrock.
- Sagamore, prop., 1,601 g. t., b. '92, West Superior, in com.
- Sage, Russell, prop., 1,224 g. t., b. '81, Buffalo, in com.
- Sage, W. H., schr., 848 g. t., b. '75, Bangor, Mich., chartered for ocean, '98.
- Sagina, slp., on Lake Erie in 1800.
- Saginaw, stmr., later called the Rhode Island, rebuilt and enlarged '43, called St. Clair, sunk '46, recovered.
- Saginaw, brig, 283 t., b. Buffalo, '47, ashore Buffalo, '49.



- Saginaw, prop., 296 t., b. '50, converted into bge., '69, damaged by col., L. Hur., '86.  
 Saginaw, schr., 378 t., b. Newport, '62.  
 Saginaw, prop., 508 g. t., b. '66, Marine City, in com.  
 Saginaw, schr., 434 g. t., b. '66, Marine City, passed out '95.  
 Saginaw, Can. tug, 350 n. t., b. '73, Port Huron, in com.  
 Saginaw Valley, prop., 112 g. t., b. '81, Bay City, in com.  
 Saguenay, Can. stmr., 720 n. t., b. '68, Quebec, in com., formerly Union.  
 Saguenay, stmr., burned, St. Lawrence r., '84.  
 Sailor Boy, schr., 76 t., b. '66, wrecked Milwaukee, '83.  
 Sailor Boy, prop., 162 g. t., b. '91, Bay City, in com.  
 Sailor's Bride, Can. schr., 40 t., b. Goderich, in com. '56, passed out.  
 St. Albans, prop., 435 t., b. Cleveland, '68, sunk L. Mich., '81.  
 St. Andrew, Can. gunboat, b. England, in com.  
 St. Andrew, schr., sunk near Ranney's Bend, '75.  
 St. Andrew, schr., sunk near Cheboygan, '78.  
 St. Andrew, Can. prop., 695 n. t., b. '85, St. Catharines, in com., formerly W. B. Hall.  
 St. Andrews, schr., sunk L. Erie, '82.  
 St. Anne, Can. tug, 50 n. t., b. '75, Montreal, in com.  
 St. Anne, Can. prop., 12 n. t., b. '89, Sorel, in com.  
 St. Anthony, schr., wrecked Goderich, '56.  
 St. Antoine, schr., 21 g. t., b. '87, Alpena, passed out '96.  
 St. Catherine, schr., 33 g. t., b. '70, Fair Haven, in com.  
 St. Charles, scow, ashore, Middle Bass island, '76.  
 St. Clair, schr., 30 t., b. Newport, '20, sunk off Pt. aux Barques, '55.  
 St. Clair, stmr., 250 t., b. Sandusky, '36, formerly Rhode Island, went into decay.  
 St. Clair, schr., 30 t., b. Newport, '24, went New York, '26.  
 St. Clair, stmr., 210 t., b. Detroit, 43.  
 St. Clair, prop., b. Algonac, '66, transformed into stmr. St. Clair, '75.  
 St. Clair, stmr., formerly prop. St. Clair, burned L. Sup., '76, 26 lives lost.  
 St. Clair, Can. schr., 132 n. t., b. '75, Robbin's Mills, in com.  
 St. Clair, bge., 450 t., wrecked Sand Beach, '88, 4 lives lost.  
 St. Clair Flat, Can. prop., 17 g. t., b. '67, Algonac, in com.  
 St. Cloud, schr., 32 g. t., b. '69, Sheboygan, passed out, '94.  
 St. Croix, Can. stmr., 194 n. t., b. '80, St. Nicholas, in com.  
 St. David, Can. stmr., ashore L. Ont. '42.  
 St. Elmo, Can. schr., 350 g. t., b. '53, Montreal.  
 St. Francis, Can. tug, 80 n. t., b. '75, Montreal, in com.  
 St. Francis, Can. stmr., 350 n. t., b. '76, Montreal, in com.  
 St. George, Can. schr., 400 g. t., b. '34, Kingston.  
 St. George, Can. tug, 49 n. t., b. '86, Sorel, in com.  
 St. George, Can. tug, 88 n. t., b. '92, Montreal, in com.  
 St. Helen, Can. stmr., 100 t., in com., '56.  
 St. Helena, schr., lost on African coast, '61.  
 St. Ignace, scow, 238 t., founded L. Mich., '94.  
 St. Ignace, prop., 1,199 g. t., b. '88, Detroit, in com.  
 St. James, schr., 296 t., damaged by col., '60.  
 St. James, Can. tug, 93 n. t., b. '75, Montreal, in com.  
 St. John, Wm., tug, 31 g. t., later the Island Belle.  
 St. Joe, schr., afloat L. Mich., '45.  
 St. Joseph, schr., b. 35, Black River, O.  
 St. Joseph, prop., 470 t., b. Buffalo, '46, wrecked L. Erie, '56.  
 St. Joseph, schr., 165 g. t., b. '64, Marine City, in com.  
 St. Joseph, prop., 304 g. t., b. '67, Buffalo, in com.  
 St. Joseph, prop., 400 t., lost, '88.  
 St. Joseph, small stmr., sunk by col., '71, near Fighting island.  
 St. Julian, Can. sty., 20 g. t., b. '84, Kingston, in com.  
 St. Lawrence, Brit. ship, b. Kingston, '14, double-decker, 120 guns.  
 St. Lawrence, stmr., 402 t., b. Oswego, '39, laid up, '50, first stmr. on L. Ont. with staterooms on main deck.  
 St. Lawrence, stmr., sunk St. Lawrence r., '51.  
 St. Lawrence, schr., b. Clayton before '52.  
 St. Lawrence, stmr., 1,844 t., b. Buffalo, '53, made a bark, wrecked Buffalo, '62.  
 St. Lawrence, schr., 281 g. t., b. '63, Cleveland, in com.  
 St. Lawrence, Can. schr., 358 g. t., b. '64, St. Catharines, in com.  
 St. Lawrence, prop., burned Kingston, '73.  
 St. Lawrence, stmr., 312 g. t., b. '84, Clayton, wrecked Pt. Betsey, '98.  
 St. Lawrence, prop., 1,437 g. t., b. '90, Marine City, in com.  
 St. Louis, brig, 200 t., b. Kalamazoo, '43, lost L. Erie, '60.  
 St. Louis, stmr., 618 t., b. Perrysburg, '44, wrecked L. Erie, '52.  
 St. Louis, prop., 985 g. t., b. '64, Cleveland, in com.  
 St. Louis, Can. tug, 60 n. t., b. '75, Buffalo, in com.  
 St. Louis, Can. schr., 405 n. t., b. '77, St. Catharines, in com.  
 St. Louis, Can. stmr., 267 n. t., b. '80, Labinier, in com.  
 St. Louis, sty., 11 g. t., b. '93, Chicago, in com.  
 St. Marie, prop., 132 g. t., b. '75, Sugar Island, Mich., passed out, '97.  
 St. Mary, schr., b. Perrysburgh, '48.  
 St. Mary, schr., foundered L. Mich., '60, 7 lives lost.  
 St. Mary, tug, burned Grand Haven, '63.  
 St. Mary, tug, burned Glen Haven, '85.  
 St. Magnus, Can. prop., 853 g. t., b. Hamilton, '80, burned Port Dalhousie, '95.  
 St. Nicholas, prop., b. Cape Vincent, before '53, wrecked Sleeping Bear, '57.  
 St. Nicholas, Can. stmr., b. '54, St. Catharines.  
 St. Paul, schr., 303 t., passed out.  
 St. Paul, prop., 760 g. t., b. '68, Marine City, in com.  
 St. Paul, prop., sunk Detroit, '83.  
 St. Paul, Can. tug, 82 n. t., b. '95, Sorel, in com.  
 St. Paul, s. prop., 2,029 g. t., b. '97, South Chicago, in com.  
 St. Peter, schr., 120 t., b. New Baltimore, '68, ashore Clay Banks, '71.  
 St. Peter, schr., 289 g. t., b. '73, Toledo, in com.  
 St. Peter, Can. schr., sank L. Ont., '98, 8 lives lost.  
 St. Peter, Can. tug, 70 n. t., b. '75, Buffalo, in com.  
 St. Peters, stmr., burned, '61, on ways at Sorel.  
 St. Regis, schr., ashore L. Ont., '45.  
 St. Stephen, schr., burned Detroit, '75.  
 Ste. Marie, sfy., 1,357 g. t., b. Detroit, '93, in com.  
 Salem, schr., 28 t., b. about '18.  
 Salina, prop., 212 g. t., b. '66, Marine City, burned St. Clair r., '96.  
 Sally, schr., 25 t., b. Cleveland, '12.  
 Sally, sty., in com., '81.  
 Saltillo, schr., sunk by col., St. Clair r., '53.  
 Samana, schr., 287 t., b. '73, Oswego, wrecked Cleveland, '92.  
 Sammons, Maud, tug, 18 g. t., b. '74, Cheboygan, in com.  
 Samoa, prop., 1,096 g. t., formerly Thomas W. Palmer, b. '80, Detroit, in com.  
 Sampson, prop., 250 t., b. '42, Perrysburg, wrecked near Buffalo, '52.

- Samson, tug, 181 t., b. St. Catharines, '64.  
 Samson, tug, 181 g. t., b. '66, Detroit, in com.  
 Samson, tug, burned Bar Point, L. Erie, '65.  
 Samson, Can. prop., 129 g. t., b. '76, Lindsay, in com.  
 Samson, Can. prop., 15 g. t., b. '93, Simcoe, in com.  
 San Diego, schr., 809 g. t., b. '74, Detroit, chartered ocean service '98, wrecked on ocean.  
 San Jacinto, schr., damaged, '62.  
 San Jacinto, schr., b. Manitowoc, '70, wrecked Sheboygan, '71.  
 Sanborn, Maggie, tug, 21 g. t., b. '74, Buffalo, in com.  
 Sanborn, R. J., schr., wrecked L. Mich., '73.  
 Sanderson, Wm., schr., sunk L. Ont., '71.  
 Sands, Isabella, schr., 230 g. t., b. '74, Manistee, in com.  
 Sandusky, stmr., 377 t., b. Sandusky, '34, burned Buffalo, '43, made bark, lost '45.  
 Sandusky, schr., 110 t., ashore L. Erie, '38.  
 Sandusky, brig, sunk Long Point, '48.  
 Sandusky, prop., 460 t., b. '48, burned L. Erie, '57.  
 Sandusky, brig., lost in Straits, '56, 7 lives lost.  
 Sandusky, schr., 837 g. t., b. '73, Gibraltar, in com.  
 Sandy, Can. scow, 28 g. t., b. '86, Hamilton, in com.  
 Sandy, Can. tug, 24 n. t., b. '87, Summerstown, in com., formerly Glengarry.  
 Sanford, George D., Jr., tug, 51 g. t., b. '82, Grand Haven, in com.  
 Sanilac, prop., 310 g. t., b. '67, Algonac, in com.  
 Santa Maria, caravel from Spain to World's Fair, '93.  
 Santa Maria, sloop, 7 g. t., b. '93, Sault Ste. Marie, in com.  
 Santa Maria, prop., 982 g. t., b. '93, Marine City, in com.  
 Santillo, brig, sunk by col., L. St. Clair, '47, on first trip.  
 Sapphire, sty., 120 g. t., b. '88, Bath, Me., in com.  
 Sappho, prop., 224 g. t., b. '83, Detroit, in com.  
 Sarah, schr., ashore, '60.  
 Sarah, Can. schr., 81 n. t., b. '81, Port Burwell, in com.  
 Sarah and Cornelia, Can. schr., ashore Long Point, '51.  
 Sarah Jane, Can. scow, 238 g. t., b. '78, Port Robinson, in com.  
 Saranac, schr., arrived Chicago from Liverpool, '66.  
 Saranac, tug, 8 g. t., b. '90, Shelburne, Vt.  
 Saranac, s. prop., 2,669 g. t., b. '90, Cleveland, in com.  
 Saratoga, schr., ashore L. Erie, '38, sunk by col. '51, 4 men lost.  
 Saratoga, stmr., 800 t., b. Cleveland, '46, wrecked Port Burwell, '54.  
 Saratoga, schr., 661 g. t., b. '46, Cleveland, lost near Chicago, '55.  
 Sardinia, schr., 150 g. t., b. '56, Penetanguishene, Ont., in com.  
 Sardina, schr., wrecked Oswego, '64.  
 Sargeant, J. W., schr., abandoned, '72.  
 Sargent, James, prop., 34 g. t., b. '89, Rochester, passed out, '91.  
 Sargisson, Z., tug, 13 g. t., b. '73, Winneconne, in com.  
 Sarnia, schr., 126 t., b. Chippewa, '41.  
 Sasco, schr., damaged by col., '60.  
 Sassacus, schr., 109 g. t., b. '67, Oswego, lost '93, L. Mich.  
 Sassacus, sty., 11 g. t., b. '88, Skaneateles, N. Y., in com.  
 Satellite, tug, 149 t., b. Cleveland, '64, sunk off Whitefish Point, '79.  
 Satisfaction, tug, 36 g. t., b. '71, Buffalo, in com.  
 Satisfaction, tug, 47 g. t., b. '94, Sheboygan, in com.  
 Saturn, schr., ashore Whitefish Point, '72.  
 Saturn, Can. prop., 663 n. t., b. '75, Owen Sound, in com., formerly the City of Owen Sound.  
 Sauber, William F., prop., 2,053 g. t., b. '91, West Bay City, in com.  
 Saucy Jack, Can. schr., 68 g. t., b. '64, Sandusky Creek, in com.  
 Saucy Jim, Can. tug, 120 n. t., b. '87, Meaford, in com.  
 Saugatuck, sty., 88 g. t., b. '75, Saugatuck, in com.  
 Saugatuck, tug, 229 g. t., b. '87, Saugatuck, in com.  
 Sauguenay, Can. stmr., burned '61.  
 Savage, schr., 30 t., b. '28, passed out.  
 Savage, R. D., Can. schr., 126 g. t., b. '82, Hull, in com.  
 Savannah, schr., b. '36.  
 Savannah, schr., 50 t., b. Milwaukee, '41, sunk L. Erie, '41, raised.  
 Saveland, schr., 689 g. t., b. '73, Milwaukee, in com.  
 Savidge, George P., tug, 20 g. t., b. '81, Grand Haven, passed out, '93.  
 Savidge, Hunter, tug, 14 g. t., b. '66, Ferrysburg, Mich., in com.  
 Savidge, Hunter, schr., 152 g. t., b. '79, Grand Haven, in com.  
 Savona, s. prop., 2,362 g. t., b. '90, Bay City, in com.  
 Sawyer, E. P., Can. tug, 30 n. t., b. '86, Buffalo, in com.  
 Sawyer, James D., schr., 637 g. t., b. '71, Tonawanda, wrecked L. Mich., '93.  
 Sawyer, Philetus, prop., 449 g. t., b. '84, Green Bay, in com.  
 Sawyer, W. H., prop., 747 g. t., b. '90, West Bay City, in com.  
 Saxon, brig, schr., lost '71.  
 Saxon, s. prop., 2,348 g. t., b. '90, Cleveland, in com.  
 Saxton, brig, b. Three Mile Bay, L. Ont., '48.  
 Say When, sty., 87 g. t., b. '88, Bristol, R. I., in com.  
 Scagel, Willie, Can. y., 11 n. t., b. '87, Sarnia, in com.  
 Scammon, J. Young, schr., b. Chicago, '45, wrecked L. Mich., '48, 2 lives lost.  
 Scammon, Maria, schr., 194 t., passed out.  
 Scandinavian, schr., 247 t., b. New Buffalo, '62.  
 Scarth, Jessie, schr., foundered L. Mich., '81.  
 Scarth, Jessie, Can. schr., 333 g. t., b. '71, Hamilton, in com.  
 Schenck, S. C., s. tug, 126 g. t., b. '90, Buffalo, in com.  
 Schilde, schr., 338 g. t., formerly Canada, b. '72, Hamilton, Ont., later the Eureka.  
 Schiller, prop., 27 g. t., b. '84, Fort Howard, Wis., later the Nettie Denessen.  
 Schlesinger, Ferd, prop., 2,607 g. t., b. '91, Milwaukee, in com.  
 Schlitz Globe, schr., 20 g. t., b. '96, Racine, in com.  
 Schnoor, H. C., prop., 244 g. t., b. '74, Fair Haven, Mich., in com.  
 Schofield, L., Jr., sty., 9 g. t., b. '88, Algonac, in com.  
 Schoolcraft, prop., 745 g. t., b. '84, Trenton, in com.  
 Schriver, Fannie, tug, 20 g. t., b. '67, Buffalo, passed out, '93.  
 Schroder, John, prop., 372 g. t., b. '90, Sheboygan, in com.  
 Schuck, R. E., prop., 1,867 g. t., b. '90, Cleveland, in com.  
 Schuette, John, schr., 269 g. t., b. '75, Two Rivers, in com.  
 Schultz, L. A., tug, 31 g. t., b. '82, Milwaukee, in com.  
 Schuyler, D. H., schr., b. Three Mile Bay, L. Ont., '48.  
 Schuyllkill, schr., wrecked Portage lake, '89.  
 Schuyllkill, s. prop., 2,205 g. t., b. '92, Cleveland, in com.  
 Scionda, sty., 84 g. t., b. '87, Athens, N. Y., in com.  
 Scioto, schr., 130 t., b. Cleveland, '41, sunk L. Erie, '51, by col.  
 Scorpion, U. S. schr., 86 t., 2 guns, b. Erie, '13, in battle Lake Erie, captured by British L. Hur., '14.

- Scorpion, slpy., 10 g. t., b. '91, Chicago, in com.
- Scotch Thistle, Can. tug, 17 g. t., b. '93, Little Current, in com.
- Scotia, prop., sunk L. Erie, '64, by col., 9 lives lost.
- Scotia, Can. slp., 458 g. t., b. '79, St. Catharines, in com.
- Scotia, 64 t., b. Detroit, '70.
- Scotia, bge., 115 g. t., b. '72, in com.
- Scotia, schr., 903 g. t., b. '73, Cleveland, in com.
- Scotia, Can. tug, 20 n. t., b. '78, Glasgow, in com.
- Scotia, prop., wrecked L. Sup., '84.
- Scotland, schr., 100 g. t., b. '45, Perrysburg, O.
- Scotland, schr., 187 t., lost L. Erie, '69.
- Scotland, Can. schr., 150 g. t., b. '47, Toronto.
- Scotland, schr., wrecked Port Stanley, '48.
- Scotland, Can. bge., 450 n. t., b. '66, Brockville, in com.
- Scotland, Can. prop., passed out.
- Scott, A., schr., wrecked Vermilion, '59.
- Scott, E. H., brig, 200 t., b. St. Joseph, '43, wrecked L. Mich., '52.
- Scott, Gen., stmr., 240 t., b. Huron, O., '39, sunk L. St. Clair, by col., '48.
- Scott, Gen., schr., 20 t., b. Sandusky, passed out.
- Scott, James, schr., ashore Long Point, '81.
- Scott, J. D., sty., 87 g. t., formerly City of Rochester, b. '76, Rochester, in com.
- Scott, J. G., Can. v., lost L. Erie, '60.
- Scott, J. Maria, prop., 378 g. t., later the White Star.
- Scott, J. N., Can. schr., 20 g. t., b. '59, Goderich, in com.
- Scott, Mary, tug, 26 g. t., b. '92, Ludington, in com.
- Scott, Mary M., schr., 361 t., b. after 1850, Conneaut.
- Scott, M. S., schr., wrecked Racine, '66.
- Scott, Thomas A., prop., 1,159 t., b. Buffalo, '69, changed to sail, lost, '80.
- Scott, Thomas R., prop., 268 g. t., b. '87, Grand Haven, in com.
- Scott, T. R., tug, 10 t., b. '69, passed out.
- Scott, Walter, Can. tug, 15 n. t., b. Buffalo, in com.
- Scott, Walter, tug, 9 t., b. Detroit, '80.
- Scott, Winfield, schr., b. '52, Black River, O., aground Point Pelee, '65.
- Scott, Winfield, schr., 118 t., b. Cleveland, capsized '71.
- Scott, Wm. L., tug, 55 g. t., b. '90, Buffalo, in com.
- Scottish Chief, scow, wrecked L. Mich., '71.
- Scourge, schr., 110 t., originally Lord Nelson, U. S. v. on L. Ont., '12, 9 guns, lost L. Ont., '13.
- Scove, H. M., schr., 305 g. t., b. '73, Manitowoc, lost L. Mich., '94.
- Scoville, fy. stmr., St. Clair r., in com., '79.
- Scoville, E., schr., 102 g. t., b. '61, Huron, in com.
- Scoville, Jonathan, stcb., 136 g. t., b. '80, Buffalo, passed out, '90.
- Scranton, s. prop., 2,015 g. t., b. '88, Cleveland, in com.
- Scud, schr., 86 g. t., b. '68, Clayton, passed out, '97.
- Scugog, Can. prop., 60 g. t., b. '59, Bridgenorth, in com.
- Sea Bird, schr., sunk L. Erie, '50.
- Sea Bird, schr., 139 t., b. '57, foundered L. Mich., '83, 9 lives lost.
- Sea Bird, stmr., 638 t., b. Newpopt, '59, burned L. Mich., '68, 72 lives lost.
- Sea Bird, scow, b. after 1850, Conneaut.
- Sea Bird, scow, 102 t., total loss, '69.
- Sea Bird, schr., 115 t., b. Trenton, '81.
- Sea Flower, Can. prop., 7 g. t., b. '83, Toronto, in com.
- Sea Flower, slp., 7 g. t., b. '96, Marinette, in com.
- Sea Foam, schr., 40 g. t., b. '78, Sacket's Harbor, in com.
- Sea Fox, tug, 15 g. t., b. '93, Rocky River, O., in com.
- Sea Fox, sty., 74 g. t., b. '95, Detroit, in com.
- Sea Gem, schr., 103 g. t., b. '63, Manitowoc, in com.
- Sea Gull, schr., 125 t., b. Milan, '46.
- Sea Gull, schr., wrecked Grand Haven, '69.
- Sea Gull, stmr., b. '59, burned, L. Mich., '68.
- Sea Gull, Can. tug, 41 n. t., b. '62, Marine City, in com.
- Sea Gull, Can. schr., 201 t., b. Oakville, '64, made brigantine and sailed to Africa '65, returned Kingston, '66, made bge and burned Tawas, '88.
- Sea Gull, tug, 74 g. t., b. '68, Portsmouth, Mich., in com.
- Sea Gull, tug, 521 g. t., b. '83, Mystic, Conn., burned in Straits, '93.
- Sea Gull, Can. tug, 30 n. t., b. '90, Goderich, in com.
- Sea Gull, tug, sunk, Saginaw bay, '90.
- Sea Gull, prop., burned East Tawas, '90.
- Sea Gull, Can. prop., 9 g. t., b. '93, Port Severn in com.
- Sea King, Can. tug, 35 n. t., b. '92, Goderich, in com.
- Sea Lion, schr., 65 g. t., b. '84, Nicolette, Wis., in com.
- Sea Queen, Can. tug, 26 n. t., b. '92, Goderich, in com.
- Search, schr., 205 g. t., later the Grace Grummond.
- Sea Star, schr., 95 t., wrecked Ahnapee, '86.
- Sea Serpent, schr., ashore L. Mich., '36.
- Sea Shell, Can. tug, 7 g. t., b. '94, Kincardine, in com.
- Sea Wing, tug, 22 g. t., b. '81, Detroit, in com.
- Sea Witch, scow, b. '50, Black River, O., wrecked Fort Erie, '59.
- Seacord, T. R., Can. scow, 122 g. t., b. '64, Port Robinson, in com.
- Seacord, T. R., Can. prop., 19 g. t., b. '67, Port Robinson, in com.
- Seaman, schr., 181 g. t., b. '48, Cleveland, in com.
- Seaman A., Can. tug, 101 n. t., b. '94, Buffalo, formerly tug J. Armstrong, in com.
- Seamour Belle, tug, 51 t., b. Cleveland, '59.
- Seaton, L., schr., 232 g. t., b. '72, Henderson, N. Y., wrecked L. Hur., '92.
- Seattle, prop., 429 g. t., b. '92, Oscoda, in com.
- Sebastopol, stmr., b. Cleveland about '54, lost L. Mich., '55, 7 lives lost.
- Secor, J. K., prop., 100 g. t., b. '84, Toledo, in com.
- Segison, Geo. W., tug, 13 g. t., b. '73, Buffalo, in com.
- Sequin, Can. tug, 843 n. t., b. '90, Owen Sound, in com.
- Seibold, W. H., Can. prop., 22 g. t., b. '87, Goderich, in com.
- Selden, Marvin E., schr., 618 g. t., b. '81, Toledo, passed out, '91.
- Selkirk, schr., 307 g. t., b. '62, Wallaceburg, Ont., in com.
- Selkirk, Can. bge., 843 n. t., b. '94, Kingston, in com.
- Seminole, schr., 188 g. t., b. '47, Point Peninsular, N. Y., in com.
- Senator, schr., 332 g. t., b. '63, Clayton, N. Y., in com.
- Senator, Can. bge., 385 n. t., b. '71, Lancaster, in com.
- Senator, s. prop., 4,048 g. t., b. '96, Wyandotte, in com.
- Senator Blood, schr., 230 g. t., b. '63, Oswego, passed out, '91.
- Seneca, English war v., 22 guns, on L. Ont., 1760.
- Seneca, Brit. v., 4 guns, b. Kingston, '12.
- Seneca, tug, b. '47, exploded Chicago, '55, 2 lives lost.
- Seneca, stmr., burned Chicago, '51.
- Seneca, prop., early boat on L. Sup.
- Seneca, brig, wrecked Kalamazoo, '56.
- Seneca, prop., 2,669 g. t., b. '89, Cleveland, in com.
- Seneca Chief, schr., 150 t., b. Buffalo, '46, burned Manistee, '71.
- Seneca Chief, tug, 24 g. t., b. '93, Rochester, passed out, '96.
- Senora, slpy., 25 g. t., b. '93, in com.
- Sensation, Can. tug, 22 n. t., b. '73, Buffalo, in com.
- Sentinel, 297 t., b. '63, passed out.
- Sentinel, s. sty., 74 g. t., b. '83, Brooklyn, N. Y., in com.
- Sephie, Can. schr., 369 n. t., b. '77, Goderich, in com.
- Serena, schr., ashore, '52.



- Serepta, Can. schr., now the Can. schr. Mary Everett.  
 Servia, prop., 1,425 g. t., b. '88, West Bay City, burned L. Sup., '98.  
 Seventh Ohio, wrecked Chicago, '77.  
 Seventy-six, schr., wrecked L. Mich., '48, stranded Grand river, '53.  
 Severn, schr., wrecked Grand River, Ont., '52.  
 Severn, Can. schr., 536 g. t., b. '72, Welland, in com.  
 Severn, Can. prop., 44 g. t., b. '83, Waubesaushene, in com.  
 Sevona, prop., 2,362 g. t., b. '90, formerly Emily P. Weed.  
 Sewell, Edith, schr., sunk off Wolfe island, '83.  
 Sewell, Harry, Can. tug, 30 n. t., b. '74, Wallaceburg, in com.  
 Sexton, D. B., schr., 345 t., sailed Detroit to Liverpool, '58, wrecked Straits of Gibraltar, '62.  
 Seymour, George D., tug, 76 g. t., b. '75, Buffalo, in com.  
 Seymour, H. R., brig, b. Three Mile Bay, L. Ont., '47.  
 Seymour, R. A., prop., 131 g. t., b. '82, Manitowoc, in com.  
 Seymour, Wm., Can. prop., 175 t., b. Goderich, passed out.  
 Seymour, Wm. H., tug, 52 g. t., b. '74, Erie, in com.  
 Shade, A., Can. schr., 72 g. t., b. '57, Goderich, in com.  
 Shafer, E. C., sty., 24 g. t., b. '92, Buffalo, in com.  
 Shakespeare, brig, b. Cleveland, '48, wrecked L. Mich., '58, afterward called Empire State.  
 Shamrock, stmr., sunk, '42, St. Lawrence r.  
 Shamrock, schr., capsized L. Erie, '44, recovered.  
 Shamrock, Can. schr., 116 g. t., b. '69, Kingston, in in com.  
 Shamrock, Can. stmr., 126 n. t., b. '85, Oakville, in com., formerly Sadie.  
 Shamrock, sly., 7 g. t., b. '90, in com.  
 Shamrock, Can. tug, 14 g. t., b. Collingwood, '96.  
 Shandon, schr., sunk Georgian Bay, '84.  
 Shanks, J. L., schr., in com., '76.  
 Shannon, schr., 120 t., b. Chippewa, '41.  
 Shannon, schr., 400 t., b. '69, lost Georgian Bay, '70.  
 Shark, schr., wrecked L. Erie, '38.  
 Sharp, scow, in com., '57.  
 Sharp, David, schr., in com., '75.  
 Shattuck, W. B., schr., 37 g. t., b. '73, Menekaune, passed out, '96.  
 Shaughraun, tug, 43 g. t., b. Buffalo '82, now the Alpha.  
 Shaughraun, i. tug, 45 g. t., b. '83, Buffalo, in com.  
 Shaw, scow, wrecked Grand River, '74.  
 Shaw, John, schr., 928 g. t., b. '85, West Bay City, foundered AuSable, '94.  
 Shaw, J. E., schr., lost in Straits, '56.  
 Shaw, O., schr., 40 g. t., b. '70, South Haven, in com.  
 Shawenag, Can. tug, 117 n. t., b. '82, Penetanguishene, in com.  
 Shawmut, bge., 250 g. t., b. '89, in com.  
 Shawnee, schr., 571 g. t., b. '73, Gibraltar, chartered for ocean, '98.  
 She, sty., 10 g. t., b. '88, Buffalo, in com.  
 Sheboygan, stmr., 623 g. t., b. '69, Manitowoc, in com.  
 Sheboygan, tug, 62 g. t., b. '86, Sheboygan, in com.  
 Sheffield, Chas. J., stmr., sunk by col., Whitefish bay, '89.  
 Shelby, Blanche, Can. tug, 21 g. t., b. '74, Buffalo, in com.  
 Shelby, Edward, tug, 27 g. t., b. '82, Saugatuck, in com.  
 Sheldon, Cora A., tug, 54 g. t., b. '83, Saugatuck, in com.  
 Sheldon, Sarah E., prop., 693 g. t., b. '72, Black River, O., in com.  
 Sheldon, Thomas P., schr., 669 g. t., b. '71, East Saginaw, chartered ocean service, '98.  
 Shenandoah, prop., 2,251 g. t., b. '94, West Bay City, in com.  
 Shenango, No. 1, prop., 1,941 g. t., b. '95, Toledo, in com.  
 Shenango, No. 2, prop., 1,938 g. t., b. '95, Toledo, now the Muskegon.  
 Shepard, L. B., schr., 214 g. t., b. '55, Buffalo, capsized L. Mich., '98.  
 Shepard, Sakie, prop., 188 g. t., b. '83, Huron, burned St. Clair, '98.  
 Shephard, B. S., bark, 509 t., b. Cleveland, '54, wrecked L. Erie, '63.  
 Shepherd Boy, Can. schr., 62 g. t., b. '93, Ottawa, in com.  
 Sheppardson, schr., 130 t., b. Milwaukee, '45.  
 Sheridan, bge., lost L. Hur., '66.  
 Sheridan Belle, on L. Erie, '55.  
 Sheridan, Gen., stmr., 100 t., b. Cleveland, '65.  
 Sheridan, Phil, stmr., 711 t., b. '67, burned Buffalo, '75.  
 Sheridan, Phil, schr., 7 g. t. b. '67, Bangor, Mich., passed out, '97.  
 Sheridan, Phil, s. tug, 35 g. t., b. '89, Buffalo, in com.  
 Sheriff, J., tug, 21 g. t., b. '74, Sheboygan, in com.  
 Sheriffs, Jim, prop., 841 g. t., b. '83, Milwaukee, in com.  
 Sherman, George, bark, 550 t., ore carrier in '56.  
 Sherman, George, schr., 307 t., b. '62, wrecked L. Sup., '87.  
 Sherman, John, schr., 322 g. t., b. '65, Cleveland, passed out, '93.  
 Sherman, P. C., schr., 566 t., b. Cleveland, '62, ashore Long Point, '71, crew of 9 perished.  
 Sherman, Walter A., bge., 519 g. t., b. '82, Buffalo, in com.  
 Sherman, Watts, schr., 199 t., b. Buffalo, '47, later the Ebenezer.  
 Sherman, W. P., 75 t., b. '69.  
 Sherwood, Annie, schr., 622 g. t., b. '66, Fairport, lost L. Sup., '93, 2 lives lost.  
 Sherwood, Grace, schr., sunk Port Burwell, '75.  
 Sherwood, Nellie, Can. schr., foundered with all hands Georgian Bay, '82.  
 Shiawassee, schr., 186 g. t., b. '70, Saginaw, passed out, '94.  
 Shickluna, prop., burned Port Colborne, '70.  
 Shickluna, prop., sunk near Algoma Mills, '83.  
 Shickluna, Can. tug, 62 n. t., b. '62, St. Catharines, in com.  
 Shickluna L., Can. prop., 394 n. t., b. '70, St. Catharines, sunk by col. Long Point, '97.  
 Shickluna, L., Can. tug, 30 n. t., b. '78, St. Catharines, in com.  
 Shields, M., tug, 34 g. t., b. '70, Chicago, in com.  
 Shipman, Allie E., prop., 40 g. t., b. '92, Manitowoc, in com.  
 Shipman, Sarah R., prop., 17 g. t., b. '71, Saugatuck, passed out, '91.  
 Shipner, Norwegian bark, arrived Detroit from Europe, '62.  
 Shoecraft, tug, 12 g. t., b. '65, Wilson, N. Y., in com.  
 Shoe Fly, Can. prop., 25 g. t., b. '70, Cleveland, in com.  
 Shoo Fly, schr., 6 g. t., b. '74, Sand Beach, Mich., in com.  
 Shook, schr., 361 t., total loss, '69.  
 Shores, Adella, prop., 734 g. t., b. '94, Gibraltar, in com.  
 Shores, E. A., Jr., prop., 520 g. t., b. '92, Sheboygan, in com.  
 Shrewsburg, stmr., 326 g. t., b. '87, Bath, Me., in com.  
 Shrigley, James H., prop., 459 g. t., b. '81, Milwaukee, in com.  
 Shriver Brothers, tug, 17 g. t., b. '82, Saugatuck, in com.  
 Shriver, Eli, Jr., tug, 26 g. t., b. '90, Buffalo, in com.

- Shriver, Fannie, tug, 20 t., b. '69.  
 Shupe, Wm., schr., 240 g. t., b. '62, Milan, wrecked L. Hur., '94, 4 lives lost.  
 Sibera, prop., 1,618 g. t., b. '82, West Bay City, in com.  
 Sibley, Hiram W., prop., 1,418 g. t., b. '90, East Saginaw, wrecked L. Mich., '98.  
 Sibley, M. H., schr., 250 t., b. Buffalo, '47, lost L. Erie '69.  
 Sicken, M., prop., 212 g. t., b. '84, Marine City, in com.  
 Sidney, stcb., 129 g. t., b. '80, Havana, N. Y., passed out, '93.  
 Sidonie, tug, 14 g. t., b. '98, Manitowoc, in com.  
 Siemens, Sir William, s. prop., 4,344 g. t., b. '96, Cleveland, in com.  
 Siesta, prop., 102 g. t., b. '82, Bristol, R. I., in com.  
 Siesta, Can. sty., 15 g. t., b. '88, Kingston, in com.  
 Sigel, Gen. Franz, schr., 316 g. t., b. '62, Black River, O., in com.  
 Sigison, Geo. W., stmr., 13 g. t., b. '97, in com.  
 Sigma, sty., 158 g. t., b. '83, Trenton, Mich., in com.  
 Signal, schr., 161 t., b. '47, wrecked Oswego, '56.  
 Signal, Can. prop., 95 n. t., b. '96, Collinwood, in com.  
 Sill, Henry S., tug, 35 g. t., b. '75, Buffalo, in com.  
 Silver Cloud, schr., 96 g. t., b. '69, Sheboygan, capsized L. Mich., '91, 3 lives lost.  
 Silver King, sty., 37 g. t., b. '93, Buffalo, in com.  
 Silver Lake, schr., 111 g. t., b. '89, Little Point Sable, in com.  
 Silver Spray, Can. stmr., 269 t., b. Port Dalhousie, '64, sunk by col. L. St. Clair, '69, raised.  
 Silver Spray, sty., 111 g. t., b. '89, Buffalo, in com.  
 Silver Spray, sty., 38 g. t., b. '95, West Bay City, in com.  
 Silver Spray, tug, 33 g. t., b. Sandusky, O., '98, in com.  
 Simcoe, Can. schr., b. 1797, Kingston.  
 Simcoe, Brit. v., 12 guns, sunk L. Ont., '12, broken up few years after war.  
 Simcoe, Can. schr., 150 g. t., b. 39, Lake Simcoe.  
 Simcoe, Can. prop., sunk L. Mich., '80, several lives lost.  
 Simcoe, Gov., Can. schr., b. Mississaga Pt., '08.  
 Simmons, Rouse, schr., 205 g. t., b. '68, Milwaukee, in com.  
 Simmons, Z. G., schr., 136 g. t., b. '66, Huron, O., sunk by col., Manistee, '80, raised, in com.  
 Simpson, John, schr., passed out.  
 Simpson, Lucia A., schr., 227 g. t., b. '75, Manitowoc, in com.  
 Simpson, W. H., 49 g. t., b. '89, Sheboygan, in com.  
 Sims, Laney, schr., 45 g. t., b. '86, Presque Isle, Mich., in com.  
 Sims, Tom, schr., 321 t., b., Chicago, '62, total wreck Pierrepont, '82.  
 Sincennes, Can. tug, 232 n. t., b. '93, Montreal, in com.  
 Singapore, Can. schr., 243 n. t., b. 78, Kingston, in com.  
 Sioux, scow, ashore Sandusky, '68.  
 Sippican, schr., 121 g. t., b. '82, Port Huron, passed out '95.  
 Sir Arthur, tug, 21 g. t., b. '92, Benton Harbor, in com.  
 Sir F. B. Head, Can. schr., damaged L. Ont., '42.  
 Sir James Kempt, Can. stmr., b. Bath, '29.  
 Sir John, Can. tug, 85 n. t., b. '84, Buffalo, in com.  
 Sir Hector, Can. prop., 40 g. t., b. '91, Ottawa, in com.  
 Sir Luke, sty., 44 g. t., b. '92, Vans Harbor, Mich., in com.  
 Siren, Can. bge., 401 n. t., b. '73, Quebec, in com.  
 Siren, sly., 17 g. t., b. '85, in com.  
 Sirius, schr., 256 t., b. Milan, '54, sailed Detroit for Liverpool, '62, wrecked St. Lawrence r.  
 Sirius, sty., 17 g. t., b. '85, Clayton, in com.  
 Sisbold, Wm. H., Can. tug, 33 n. t., b. '87, Goderich, in com.  
 Siskoitw, schr., 40 t., added L. Sup. fleet, '45.  
 Siskiwi, Can. prop., 47 t., b. Buffalo, '87, in com.  
 Siskiwi, Can. tug, 50 n. t., b. Houghton, in com.  
 Sitka, prop., 1,740 g. t., b. '87, West Bay City, in com.  
 Six Brothers, schr., 19 g. t., b. '72, St. James, Mich., passed out, '97.  
 Sixsmith, W. H., Can. schr., 147 g. t., b. '87, Hull, in com.  
 Sizer, schr., lost '94, L. Mich.  
 Sizer, H. H., brig, 242 t., b. Pillar Pt., '45, capsized L. Mich., '46, several lives lost, sunk Dunkirk, '51.  
 Skater, prop., 92 g. t., b. '90, Detroit, in com.  
 Sketch, schy., 8 g. t., b. '83, Chicago, in com.  
 Skidmore, R. J., schr., 107 t., ashore Leland, '85.  
 Skinner, J. B., Can. schr., in com., '65.  
 Skinner, J. B., schr., b. '41, Conneaut, lost L. Mich., '55.  
 Skinner, J. S., 195 t., b. '69.  
 Skinner, schr., total loss, Grand Haven, '82.  
 Skinner's sloop, Can. L. Ont. before 1801.  
 Skjoldoman, slp., arrived Chicago from Norway, '63.  
 Skylark, schr., b. Clayton, N. Y., sunk Alexandria bay, '77.  
 Skylark, schr., 312 g. t., b. '63, Detroit, wrecked, '95.  
 Slaty Jack, Can. tug, 28 n. t., b. '74, Buffalo, in com.  
 Slauson, Minnie, schr., 317 g. t., b. '67, Green Bay, in com.  
 Sleipun, Norwegian bark, arrived Detroit, '63.  
 Sligo, Can. schr., 399 n. t., b. '60, St. Catharines, in com.  
 Sloan, schr., lost L. Mich., '35, 6 lives lost.  
 Sloan, Alex. H., sty., 25 g. t., b. '88, Buffalo, in com.  
 Sloan, Annie L., sty., 17 g. t., b. '86, Buffalo, passed out, '97.  
 Sloan, Geo. B., schr., 298 t., wrecked Oswego, '85.  
 Sloan, Samuel M., tug, 15 g. t., b. '82, Buffalo, in com.  
 Smalley, J. H., stpd., 32 g. t., b. '89, Bay City, passed out, '93.  
 Smart, David, brig, 203 t., wrecked near Chicago, '57.  
 Smead, R. C., schr., 75 t., b. Chaumont, N. Y., '39, wrecked L. Erie, '52.  
 Smith, Abram, schr., 373 g. t., b. '92, Algonac, in com.  
 Smith, Andrew J., tug, 239 g. t., b. '76, Buffalo, in com.  
 Smith, Angus, schr., 580 g. t., b. '76, Milwaukee, in com.  
 Smith, Anna, stmr., lost '89, L. Hur.  
 Smith, Annie L., tug, 44 g. t., b. '68, Chicago, in com.  
 Smith, Augusta, slp., 14 g. t., b. '67, Cape Vincent, in com.  
 Smith, Bessie, bge., b. Toledo, '73.  
 Smith, Charles, schr., b. Cape Vincent, before '53.  
 Smith, Charley J., schr., 43 g. t., b. '97, South Haven, in com.  
 Smith, Charlie O., tug, 64 g. t., formerly S. S. Ramage, b. '63, Cleveland, in com.  
 Smith, Davis & Co., stcb., 131 g. t., b. '86, Lockport, passed out, '93.  
 Smith, Edward, prop., 700 g. t., b. '83, Marine City, in com.  
 Smith, Edward, prop., 748 g. t., b. '90, West Bay City, in com.  
 Smith, Ella M., tug, 151 g. t., b. '76, Algonac, in com.  
 Smith, F. E., tug, 32 g. t., b. '91, Cleveland, in com.  
 Smith, Florence M., schr., 60 g. t., b. '84, Charlevoix, wrecked L. Mich., '97.  
 Smith, Frances, Can. stmr., 627 t., b. Owen Sound, '67.  
 Smith, Gerritt, schr., 254 g. t., b. '55, Buffalo, in com.  
 Smith, Gov., prop., 2,044 g. t., b. '89, Detroit, in com.  
 Smith, H. P., tug, totally burned Saginaw river, '72.  
 Smith, Ira O., tug, 39 g. t., b. '77, Muskegon, burned near Chicago, '98.  
 Smith, J. A., schr., 248 t., b. '71, wrecked Straits, '87.

- Smith, J. B., stmr., 141 t., b. Algonac, '64.  
 Smith, Janie E., tug, 24 g. t., b. '92, Ashtabula, in com.  
 Smith, Jesse, schr., b. Clayton, L. Ont., '32.  
 Smith, Jessie, schr., 117 t., b. Detroit, '43, wrecked L. Mich., '48.  
 Smith, John, tug, 14 g. t., b. '76, Manistee, in com.  
 Smith, Julia, schr., ashore Ahnapee, '81.  
 Smith, Lathem D., 46 g. t., b. '90, Milwaukee, in com.  
 Smith, Lillie, Can. prop., 304 n. t., b. '88, Southampton, in com.  
 Smith, L. P., tug, 39 t., b. '69.  
 Smith, L. P., tug, 73 g. t., b. '94, Cleveland, in com.  
 Smith, Minerva, schr., on L. Mich., '40.  
 Smith, Paul, Can. stmr., 175 n. t., b. '73, Quebec, in com., formerly the Gatineau.  
 Smith, Peter, tug, 161 g. t., formerly Ada, b. '63, Glasgow, Scotland, in com.  
 Smith, Rosa, bge., 554 t., b. Saginaw, '82.  
 Smith, Sarah, tug, 45 g. t., b. '83, West Bay City, in com.  
 Smith, Sidney T., tug, 71 g. t., b. '95, Manitowoc, in com.  
 Smith, Sophia, schr., made bge., lost L. Hur., '74.  
 Smith, Sydney, 216 t., Brit. v., L. Ont., '13, 12 guns, afterwards the Netly.  
 Smith, Thomas H., tug, lost, '93, L. Mich.  
 Smith, Walter, schr., 42 g. t., b. '83, South Haven, passed out, '95.  
 Smith, Wm., schr., 44 t., b. South Haven, '70.  
 Smith and Post, Can. schr., 212 g. t., b. '66, Oakville, Ont., in com.  
 Smoke, David, bge., 593 t., damaged, '69.  
 Smuggler, schr., 8 g. t., b. '89, Manistee, in com.  
 Smyth, Henry, Can. prop., 39 g. t., b. '77, Wallaceburg, in com.  
 Snook, T. W., prop., 168 g. t., b. '73, Mt. Clemens, in com.  
 Snowball, Can. schr., 23 g. t., b. '81, Chatham, in com.  
 Snow Bird, Can. schr., 90 n. t., b. '62, Brighton, in com., formerly the M. Proctor.  
 Snowbird, schr., 95 t., b. Spanish River, '70.  
 Snowdrop, schr., b. Conneaut, '53.  
 Snow Drop, schr., 190 g. t., b. '54, Sacket's Harbor, wrecked North Point, '92.  
 Snowstorm, Can. tug, 24 n. t., b. '91, Port Stanley, in com.  
 Snyder, Eddie, tug, 4 g. t., b. '82, Erie, passed out, '95.  
 S. O. Co., No. 75, s. schr., 793 g. t., b. '95, West Superior.  
 S. O. Co., No. 76, s. schr., 793 g. t., b. '95, West Superior.  
 S. O. Co., No. 81, 1,774 g. t., b. '97, in com.  
 Sodus, schr., lost L. Mich., '59.  
 Somers, schr., 94 t., 2 guns, formerly Catherine, b. '03, bought by U. S. Gov., in Perry's fleet, captured by British off Fort Erie and used in Canadian merchant service.  
 Somerset, schr., ashore L. Erie, '52.  
 Somerset, bge., wrecked off Monroe, '72.  
 Son and Heir, schr., total loss Georgian Bay, '69.  
 Song, John J., Can. tug, 201 g. t., b. '94, Collingwood, in com.  
 Sonntag, Can. prop., 7 g. t., b. '91, Toronto, in com.  
 Sonora, schr., 275 g. t., b. '54, Sacket's Harbor, in com.  
 Sonora, sty., 24 g. t., b. '93, Detroit, in com.  
 Sonsmith, Rosa, schr., 766 g. t., b. '82, Saginaw, Mich., in com.  
 Soo City, prop., 670 g. t., b. '88, West Bay City, in com.  
 Soper, Albert, prop., 349 g. t., b. '81, Grand Haven, ashore Algoma, '98.  
 Sophia, English v., on L. Ont. in 1795.  
 Sophia, schr., 50 t., b. Sacket's Harbor, '18, made stmr., wrecked Georgian Bay, '54.  
 Sophia, Can. schr., sailed Kingston to Liverpool, '50.  
 Sophia, sty., 16 g. t., b. '94, Alexandria Bay, in com.  
 Sorel, schr., wrecked L. Ont., '61.  
 Sorel, Can. stmr., 86 n. t., b. '71, Sorel, in com.  
 Sorel Boy, Can. prop., 25 n. t., b. '82, Three Rivers, in com.  
 South, Can. stmr., 266 n. t., b. '85, Levis, in com.  
 South America, schr., 100 t., b. Vermilion, '41, lost in a storm L. Erie, '43.  
 South Eastern, Can. prop., 395 n. t., b. '81, Montreal, now the Can. prop. International.  
 South Haven, scow, 80 t., damaged, '69.  
 South Haven, schr., 114 t., wrecked Muskegon, '86.  
 South Side, schr., 139 g. t., b. '67, Milwaukee, passed out, '94.  
 Southampton, Can. bge., 379 n. t., b. '60, Garden Island, in com.  
 Southeastern, Can. stmr., burned Prescott, '97.  
 Southern Belle, Can. v., formerly Rothesay Castle.  
 Southern Belle, tug, 38 g. t., b. '74, Chicago, passed out, '95.  
 Southern Cross, sty., 25 g. t., b. '94, in com.  
 Southerner, stmr., 500 t., b. Trenton, '47, wrecked L. Erie, '63.  
 Southern Michigan, stmr., 1,470 t., b. Buffalo, '52, dismantled.  
 Southgate, R. H., prop., 14 g. t., b. '88, Alexandria Bay, later the Lizzie H.  
 Southwest, schr., 292 g. t., b. '66, Ogdensburg, lost L. Sup., '98.  
 Southwest, schr., 280 t., lost, '69.  
 Southwood, Can. prop., 19 g. t., b. '84, Barrie, in com.  
 Souvenir, schr., 87 g. t., b. '54, Lake, Wis., passed out, '94.  
 Souvenir, schr., foundered L. Mich., '62, 4 lives lost.  
 Sovereign, Can. stmr., 475 g. t., b. '40, Niagara, broken up.  
 Sovereign, Can. slp., 65 n. t., b. '76, Kingston, in com.  
 Sovereign, Can. stmr., 303 n. t., b. '89, Montreal, in com.  
 Sovereign, Can. prop., foundered L. Sup., '91.  
 Sovereign of the Lakes, bark, b. Clayton, L. Ont., before '52, ashore Detroit r., '55.  
 Spademan, Chas., schr., 306 g. t., b. '73, Marine City, in com.  
 Spafford, F., tug, 35 t., boiler exploded Chicago, '65.  
 Spalpeen, i. tug, 29 g. t., b. '89, Buffalo, in com.  
 Spangler, Kyle, schr., b. '56, Black River, O., wrecked Atlantic coast.  
 Spanker, scow, 45 t., total loss, '69.  
 Spannier, Lewis, b. '60.  
 Sparrow, schr., 50 t., b. China, '45, wrecked near Buffalo, '55.  
 Sparrow, Joseph E., schr., 264 g. t., b. '73, Bangor, Mich., passed out, '94.  
 Sparrow, Can. prop., 25 g. t., b. '82, Dechener Creek, in com.  
 Sparta, schr., ashore Gananoque, '81.  
 Sparta, prop., 1,017 g. t., b. '74, Cleveland, in com.  
 Sparta, sty., 24 g. t., b. '92, Sparta, Mich., in com.  
 Spartan, schr., afloat, '48, lost L. Mich., '60.  
 Spartan, Can. stmr., 452 n. t., b. on Clyde, put together '64, Montreal, in com.  
 Spaulding, J. B., schr., sunk Rondeau, '83.  
 Spaulding, J. M., schr., 71 g. t., b. '75, Manhattan, O., in com.  
 Spaulding, Jesse, tug, 52 g. t., formerly Henry Marshall, b. '83, Green Bay, in com.  
 Spaulding, M. B., prop., 419 t., b. Buffalo, '49, burned Forrester, L. Hur., '60, bottom made a vessel.



- Spear, Thomas, tug, 83 g. t., b. '82, Green Bay, in com.  
 Specular, prop., 1,741 g. t., b. '82, Cleveland, in com.  
 Speed, schr., sunk Muskegon, '55.  
 Speed, schr., 104 t., b. '48, Madison, O., wrecked near Racine, '83.  
 Speed, schr., 40 g. t., b. '66, Detroit, wrecked, '94.  
 Speedwell, schr., b. L. Sup., 1789 or earlier.  
 Speedwell, slp., on L. Erie in 1801.  
 Speedwell, schr., 161 t., b. Ohio City, '47.  
 Speedwell, schr., 276 t., b. '74, ashore L. Ont., '86.  
 Speedwell, Can. schr., 181 g. t., b. '75, Marysburg, in com.  
 Speedy, Can. v., b. Navy Pt., 1776, lost near Presque Isle, L. Ont., 1804, with all on board, 24 souls, including Justice Cochrane and other distinguished passengers.  
 Spencer, George, prop., 1,360 g. t., b. '84, Cleveland, in com.  
 Spencer, J. C., schr., 86 t., passed out.  
 Spencer, Mollie, tug, 53 g. t., b. '69, Buffalo, in com.  
 Spencer, Wm., stcb., 131 g. t., b. '81, Havana, N. Y., passed out, '93.  
 Speranza, schr., 69 g. t., b. '84, Bay Ridge, N. Y., in com.  
 Spicer, W. J., stmr., 446 t., b. Port Sarnia, '64, later the W. W. Stewart.  
 Spinner, F. E., prop., 1,003 g. t., formerly Quebec, b. '74, Chatham, Ont., in com.  
 Spinney, Joseph S., tug, 15 g. t., b. '73, Buffalo, in com.  
 Split Log, U. S. revenue cutter, b. about '18.  
 Spokane, s. prop., 2,357 g. t., b. '86, Cleveland, in com.  
 Sport, i. tug, 45 g. t., b. '73, Wyandotte, in com.  
 Sport, sty., 72 g. t., b. '81, Newburg, N. Y., in com.  
 Sport, tug, 12 g. t., b. '85, Grand Haven, in com.  
 Sport, sty., 9 g. t., b. '89, Buffalo, in com.  
 Sportstman, Can. prop., 34 g. t., b. '88, Ottawa, in com.  
 Sprague, H. C., bge., 316 t., b. Toledo, '81.  
 Sprague, H. C., schr., 316 g. t., b. '80, Rockwood, Mich., passed out, '97.  
 Sprague, N. P., tug, b. '57, boiler exploded '57, 9 lives lost, sunk Point Pelee, '84.  
 Sprankle, J. R., s. tug, 44 g. t., b. '94, Cleveland, in com.  
 Spray, schr., capsized off South Haven, '75.  
 Spray, Can. tug, 141 n. t., b. '93, Montreal, in com.  
 Spray, Can. prop., 42 g. t., b. '74, Brockville, in com.  
 Spray, Can. prop., 15 g. t., b. '88, Kincardine, in com.  
 Spray, Can. prop., 47 g. t., b. '88, Wallaceburg, in com.  
 Spray, Can. tug, 22 n. t., b. '94, Levis, in com.  
 Springler, M. C., schr., 10 g. t., b. '87, Red River, Wis., passed out, '94.  
 Sprite, tug, 23 g. t., formerly Bertie Dahlke, b. '71, Buffalo, in com.  
 Sprite, sty., 13 g. t., b. '89, Grand Haven, in com.  
 Sprudel, sty., 67 g. t., b. '91, Buffalo, in com.  
 Spry, Ellen, schr., 518 t., sunk L. Mich., '86.  
 Spry, John, prop., 92 t., burned Green Bay, '85.  
 Spry, John, prop., 583 g. t., formerly May Durr, b. '88, Milwaukee, in com.  
 Spy, schr., 74 t., b. '58, wrecked L. Mich., '83.  
 Squatter, sty., 8 g. t., b. '92, Chicago, in com.  
 Squaw, Can. prop., 22 g. t., b. '91, Glen Almond, in com.  
 Staats, Elizabeth, Can. scow, 134 g. t., b. '78, Lockport, N. Y., in com.  
 Stabel, John A., sty., 39 g. t., b. '95, Buffalo, in com.  
 Stack, J. K., schr., 12 g. t., b. '75, in com.  
 Stafford, schr., 199 g. t., b. '68, Tonawanda, in com.  
 Stafford, Alice, prop., 859 g. t., formerly prop., Lora, b. '82, Benton Harbor, in com.  
 Stafford, W. R., prop., 744 g. t., b. '86, West Bay City, in com.  
 Stag, tug, wrecked, '70.  
 Stalker, M., schr., 255 t., sunk by col. L. Hur., '86.  
 Stambach, H. G., brig, b. Conneaut, capsized L. Erie, '48, 3 lives lost, wrecked North Manitou, '57.  
 Stampede, schr., 294 g. t., b. '62, Huron, O., in com.  
 Standard, tug, 15 t., b. '70.  
 Standard, H. M., bge., ashore, '81, Fairport.  
 Standard, stpd., 25 g. t., b. '87, Lorain, passed out, '93.  
 Stanley, Can. schr., 47 g. t., b. '51, Bayfield, in com.  
 Stanley, scow, lost Georgian Bay, '59.  
 Stanley, Can. prop., 914 g. t., b. '88, Govan, in com.  
 Stanley, H. M., Can. schr., 397 n. t., b. '73, Port Dalhousie, in com., formerly the schr. J. H. Breck.  
 Standard, B. A., bark, capsized near Rondeau, '59, wrecked Point Betsey, '64.  
 Stannard, N. M., brig, sunk by col. North Manitou, '59, raised.  
 Stanton, D. D., schr., 17 t., b. Detroit, '43.  
 Stanton, E. M., schr., 152 g. t., b. '66, Detroit, in com.  
 Stanwood, F. H., tug, 18 g. t., b. '83, Saugatuck, in com.  
 Star, Brit. brig, 260 t., 16 guns, b. L. Ont., '14, formerly Earl of Moira.  
 Star, stmr., 128 t., b. Belvidere, Mich., '37, burned Buffalo, '45.  
 Star, schr., wrecked Georgian Bay, '52, 6 lives lost.  
 Star, schr., wrecked near Conneaut, '64.  
 Star, tug, burned Saginaw, '69.  
 Star, Can. bge., 347 n. t., b. '73, Quebec, in com.  
 Star, tug, 10 g. t., b. '82, Conneaut, passed out, '95.  
 Star, schr., 13 g. t., b. '86, Au Gres, Mich., passed out '96.  
 Star of Hope, schr., 256 g. t., b. '56, Cleveland, passed out, '93.  
 Star of the North, schr., 214 g. t., b. '54, Cleveland, in com.  
 Stark Alwine, sty., 10 g. t., b. '88, Buffalo, in com.  
 Starke, schr., 209 g. t., b. '76, Milwaukee, passed out, '97.  
 Starke, tug, 49 g. t., b. '89, Sheboygan, in com.  
 Starke, C. H., prop., 317 g. t., b. '81, Milwaukee, in com.  
 Starkey, schr., stranded Grand river, '42.  
 Starkey, O. P., schr., b. Cape Vincent, ashore Buffalo, '37.  
 Starkweather, tug, sunk near Cleveland, '79.  
 Starlight, schr., 307 t., b. '56, foundered L. Hur., '83, 4 lives lost.  
 Starlight, schr., 30 g. t., b. '69, Erin, Mich., in com.  
 Starlight, schr., 31 t., b. '97, South Haven, in com.  
 Starling, Can. schr., 198 g. t., b. '73, Sophiasburg, in com.  
 Starrucca, prop., 1,500 t., b. '75, total wreck L. Sup. '88.  
 Starrucca, s. prop., 3,114 g. t., b. '97, Buffalo, in com.  
 Startled Fawn, Can. prop., 24 n. t., b. '90, Toronto, in com.  
 State of Michigan, prop., 736 g. t., formerly Depere, b. '73, Manitowoc, in com.  
 State of Ohio, stmr., 1,222 g. t., formerly City of Alpena, b. '80, Wyandotte, in com.  
 State of New York, i. stmr., 808 g. t., formerly City of Mackinac, b. '83, Wyandotte, in com.  
 Stauber, George, sty., 42 g. t., b. '83, Buffalo, in com.  
 Stauber, George, tug, 43 g. t., b. '84, Buffalo, in com.  
 Steadman, Oscar C., tug, 68 g. t., b. '96, Cleveland, in com.  
 Steele, George, schr., 270 g. t., b. '55, Three Mile Bay, broken up L. Hur., '98.  
 Steele, H. B., schr., 118 t., wrecked Point Betsey, L. Mich., '70.  
 Steinhart, schr., capsized L. Mich., '55.  
 Steinhoff, J. W., Can. prop., 311 g. t., b. '74, Wallaceburg, now Queen City.

- Steins, Rosa, schr., lost, '71.  
 Stella, schr., capsized and raised, '71.  
 Stella, Can. prop., 16 g. t., b. '92, Collingwood, in com.  
 Stella, Can. slp., 5 g. t., b. '92, Oakville, in com.  
 Stellar, Andrew, stcb., 133 g. t., b. '80, Tonawanda, in com.  
 Stellar, sty., 26 g. t., b. '93, in com.  
 Stephenson, Bob., tug, 18 g. t., b. '72, Buffalo, in com.  
 Stephenson, George, s. prop., 4,563 g. t., b. '96, West Bay City, in com.  
 Stephenson, I. Watson, prop., 639 g. t., b. '95, West Bay City, in com.  
 Stephenson, Isaac, schr., 461 g. t., b. '79, Manitowoc, in com.  
 Stephenson, S. M., schr., 511 g. t., b. '80, Manitowoc, in com.  
 Sterling, schr., ashore near Toronto, '56.  
 Sterling, schr., ashore, Black River, '78.  
 Sterling, F. S., tug, 78 g. t., b. '93, Monroe, in com.  
 Stevens, Bell, b. St. Joseph, '61.  
 Stevens, Belle, schr., 88 g. t., b. '75, Bangor, Mich., passed out, '95.  
 Stevens, Ezra, tug, in com., '78.  
 Stevens, Ida M., tug, 22 g. t., b. '69, Buffalo, in com.  
 Stevens, J. H., schr., 94 g. t., b. '66, Detroit, in com.  
 Stevens, John, tug, in com., '70.  
 Stevens, O., bark, 320 t., wrecked Georgian Bay, '67.  
 Stevens, W. H., schr., lost L. Hur., '63.  
 Stevens, Wm. H., prop., 1,332 g. t., b. '86, West Bay City, in com.  
 Stevenson, Ellen, schr., 43 g. t., b. '75, Sheboygan, foundered L. Mich., '97.  
 Stevenson, Wm., tug, 30 g. t., b. '87, Buffalo, in com.  
 Stewart, A., schr., 533 g. t., b. '89, Mt. Clemens, in com.  
 Stewart, Archie, Can. tug, 92 n. t., b. '92, Ottawa, in com.  
 Stewart, Carrie, stcb., 141 g. t., b. '90, Buffalo, later the Charleston.  
 Stewart, David, brig, b. '46 in St. Clair r.  
 Stewart, David, schr., 545 g. t., b. '67, Cleveland, sunk Pigeon bay, '93.  
 Stewart, Duncan, scow, capsized L. Erie, '57.  
 Stewart, Edward, tug, 15 g. t., b. '76, Grand Haven, passed out, '96.  
 Stewart, Eric, Can. schr., 230 t., b. Port Dover, '73, in com.  
 Stewart, Frank, schr., wrecked Oswego, '63.  
 Stewart, Mary, prop., 442 t., b. '55, wrecked Grand Haven, '66.  
 Stewart, R. G., prop., 197 g. t., b. '78, Buffalo, in com.  
 Stewart, Rhoda, prop., 447 g. t., b. '73, Algonac, in com.  
 Stewart, W. W., schr., 294 g. t., formerly W. J. Spicer, b. '80, Port Huron, in com.  
 Stickland, Col., Can. prop., 164 g. t., b. '71, Lakefield, in com.  
 Stickney, George, tug, 12 g. t., b. '80, Grand Haven, in com.  
 Stickney, Natt, tug, 77 g. t., b. '80, Saginaw, in com.  
 Stimson, Thomas D., prop., 509 g. t., formerly Virginia, b. '81, Mt. Clemens, Mich., in com.  
 Stockbridge, F. B., schr., 266 g. t., later the Hattie Hutt.  
 Stockman, prop., converted into tug, '62.  
 Stockman, H. D., schr., 11 g. t., b. '85, Au Sable, foundered Saginaw bay, '94.  
 Stockton, tug, 81 t., burned Bear Creek, '65.  
 Stockton, Mary, schr., 233 g. t., b. '54, Manistee, passed out, '95.  
 Stoker, Robert, Can. prop., 17 n. t., b. '77, Quebec, in com.  
 Stone City, tug, 42 g. t., b. '95, Lockport, Ill., in com.  
 Stone, Ella G., tug, 42 g. t., formerly E. L. Mason, b. '81, Algonac, in com.  
 Stone, George, prop., 1,841 g. t., b. '93, West Bay City, in com.  
 Stone, L. B., schr., 61 g. t., b. '68, Clayton, in com.  
 Stone, S. S., tug, 68 g. t., b. '82, Cleveland, in com.  
 Stone, Walter H., prop., 35 g. t., b. '89, Sandusky, in com.  
 Stone, William, schr., 185 g. t., b. '96, Vermilion, in com.  
 Storm, schr., lost L. Mich., with one life, '64.  
 Storm, scow, sunk Chicago, '69.  
 Storm, schr., 21 g. t., b. '82, Essexville, Mich., in com.  
 Storm King, schr., sunk Milwaukee, '56, sunk by col., '61.  
 Storm Spirit, schr., sunk L. Huron by col., '64.  
 Story, James, Can. tug, 64 n. t., b. '88, Collingwood, in com.  
 Stowell, A., schr., lost L. Ont., '62.  
 Straightaway, sty., 51 g. t., later the Yapiti.  
 Stranger, schr., 121 t., b. Milan, '43.  
 Stranger, tug, 89 t., b. '63.  
 Stranger, tug, 49 g. t., b. '72, Hammondsport, N. Y., passed out, '97.  
 Stranger, Can. prop., 28 g. t., b. '80, Lindsay, in com.  
 Stranger, tug, 10 g. t., b. '81, Detroit, passed out, '97.  
 Stranger, stcb., 135 g. t., b. '81, Buffalo, in com.  
 Stranoch, Jacob, schr., capsized Milwaukee, '55.  
 Street, Charles A., prop., 512 g. t., b. '88, Grand Haven, in com.  
 Street, Thos. Clark, Can. schr., 340 g. t., b. '69, St. Catharines, in com.  
 Striker, Charles P., tug, 14 g. t., b. '92, Buffalo, in com.  
 Strohn, C. B., tug, 26 g. t., b. '88, West Bay City, in com.  
 Stronach, J. and A., schr., 143 g. t., later the A. B. C. F. M.  
 Strong, Alice, prop., sunk Cleveland by col., '89.  
 Strong, Alice, stpd., 78 g. t., b. '70, Berlin, Mich., passed out, '93.  
 Strong, Helen, stmr., 253 t., b. Monroe, '45, wrecked near Barcelona, '47, 2 lives lost.  
 Strong, Samuel, schr., b. '47, Black River, O., wrecked Pere Marquette, '55.  
 Stuart, David, brig, wrecked near Chicago, '57, 7 lives lost.  
 Stuart, Ellen, schr., sunk Long Point, '51.  
 Stuart, Mary, prop., sunk Buffalo, '62.  
 Sturges, George, schr., 439 g. t., formerly Higgs, b. '72, Sheboygan, in com.  
 Sturgess, G. S., tug, bought by U. S. Gov. '63, for Mississippi river service.  
 Suavity, schr., ashore, '45.  
 Success, schr., 395 t., b. Detroit, '62.  
 Success, tug, 26 g. t., b. '62, Blenders Land'g, Mich., in com.  
 Success, bark, foundered L. Mich., '63, 10 lives lost.  
 Success, schr., 151 g. t., b. '75, Manitowoc, wrecked L. Mich., '96.  
 Suell, Calvin, schr., sunk L. Ont., '58.  
 Suffer, George, Can. schr., 75 g. t., b. '66, Port Burwell, in com.  
 Suffer, W. J., Can. schr., 287 n. t., b. 74, Port Burwell, in com.  
 Suffolk, Can. schr., 251 t., b. Buffalo, '47.  
 Suit, Joseph C., prop., 152 g. t., b. '84, Saugatuck, in com.  
 Sullivan, Hannah, tug, 29 g. t., b. '77, Milwaukee, in com.  
 Sultan, brig, b. Chicago, '48, sunk off Euclid, '64, 7 lives lost.

- Sultan, schr., wrecked Port Hope, '73.  
 Sultana, stmr., 800 t., b. Trenton, '47, made bge., re-named Cumberland, wrecked '58.  
 Sultana, bge., lost L. Hur., '63.  
 Sultana, sty., 77 g. t., b. '93, Wyandotte, in com.  
 Sumatra, schr., 845 g. t., b. '74, Cleveland, foundered L. Mich., '96, 4 lives lost.  
 Summer, Alanson, prop., 300 g. t., b. '72, Oswego, in com.  
 Summer Cloud, bark, 341 t., b. '64, Black River, O.  
 Sumner, Chas., scow, sunk near Rondeau, '65.  
 Sun, prop., 629 t., b. Buffalo, '54, passed out.  
 Sunbeam, stmr., 398 t., b. Manitowoc, '61, foundered L. Sup., '63, 21 lives lost.  
 Sunbeam, Can. prop., 13 g. t., b. '78, Birdsall, in com.  
 Sunbeam, slyp., 7 g. t., b. '87, Cleveland, passed out, '93.  
 Sunbeam, sty., 52 g. t., b. '88, Buffalo, in com.  
 Sunbeam, tug, 53 g. t., b. '91, Chicago, in com.  
 Sunbury, schr., 224 t., b. Buffalo, '59.  
 Sunnyside, schr., 563 t., b. '63, foundered L. Mich., '83.  
 Sunnyside, prop., 113 t., lost L. Mich., '67.  
 Sunnyside, schr., 35 g. t., b. '72, Newport, Mich., in com.  
 Sunol, tug, 62 g. t., b. '92, Ashtabula, in com.  
 Sunrise, schr., 439 g. t., b. '62, Cleveland, sunk by col. L. Mich., '96.  
 Sunrise, bark, lost L. Hur., '71.  
 Sunrise, schr., wrecked near Chicago, '87.  
 Sunrise, schr., 26 g. t., b. '88, Milwaukee, in com.  
 Sunshine, schr., 389 g. t., b. '54, Saginaw, in com.  
 Sunshine, bark, capsized off Fairport, '59, several lives lost.  
 Superior, U. S. frigate, 1,580 t., 58 guns, b. L. Ont., '14.  
 Superior, stmr., 300 t., b. Buffalo, '22, made ship, lost L. Mich., '43.  
 Superior, schr., ashore Cedar Point, '25.  
 Superior, an old hulk, sent over Niagara Falls, '31.  
 Superior, stmr., 507 t., b. Perrysburg, '45, wrecked L. Sup., '56, 35 lives lost.  
 Superior, schr., b. Clayton, L. Ont., before '52.  
 Superior, bark, wrecked L. Ont., '60.  
 Superior, schr., 306 g. t., b. '61, Detroit, passed out, '97.  
 Superior, schr., 70 t., b. '66.  
 Superior, prop., 964 g. t., b. '73, Gibraltar, Mich., wrecked L. Mich., '98.  
 Superior, Can. tug, 134 n. t., b. '81, Owen Sound, in com.  
 Superior, prop., 251 g. t., b. '90, Cleveland, in com.  
 Superior, tug, 71 g. t., b. '96, Benton Harbor, in com.  
 Superior, bge., 94 g. t., b. '97, in com.  
 Superior City, s. stmr., 4,579 g. t., b. Lorain, '98, in com.  
 Supply, schr., wrecked L. Hur., '32.  
 Supply, brig, 396 t., lost L. Mich., '69.  
 Supply, schr., 89 g. t., b. '61, Black River, O., passed out, '95.  
 Supply, tug, sunk off Port Washington, '69.  
 Surprise, schr., 25 t., first v. b. Buffalo, about 1805.  
 Surprise, Can. schr., wrecked L. Erie, '27.  
 Surprise, schr., 222 g. t., b. '56, Milan, O., in com.  
 Surprise, stpd., 17 g. t., b. '89, Sandusky, in com.  
 Surprise, Can. tug, 19 g. t., b. '93, Gore Bay, in com.  
 Susan, Can. schr., ashore Otter Creek, '28.  
 Susan C., schr., 13 g. t., b. Detroit, passed out, '93.  
 Susanna, schr., burned Port Dover, '53.  
 Susie, schy., 9 g. t., b. '87, Buffalo, passed out, '93.  
 Susie B., tug, 20 g. t., b. '92, Lorain, in com.  
 Susquehanna, stmr., b. Oswego, '53.  
 Susquehanna, prop., 439 t., in com., '60.  
 Susquehanna, schr., 270 t., sunk L. Erie, '65.  
 Susquehanna, s. prop., 2,782 g. t., b. '86, Buffalo, in com.  
 Sutherland, J. E., schr., 99 t., damaged, '69.  
 Sutler Girl, scow, 70 t., lost '69.  
 Sutton, Belle, Can. prop., 6 g. t., b. '80, Sutton, in com.  
 Sutton, David, tug, 28 g. t., b. '80, Buffalo, in com.  
 Sutton, Emma V., tug, 23 g. t., b. '73, Buffalo, passed out, '94.  
 Sutton, Lizzie, tug, 23 t., burned L. Sup., '86.  
 Sutton, M. F., tug, 21 t., b. '70.  
 Swain, Martin, tug, 285 g. t., b. '81, Detroit, burned St. Mary's r., '98.  
 Swain, V., prop., 955 g. t., b. '74, Cleveland, in com.  
 Swallow, slyp., 11 t., b. Detroit, '43.  
 Swallow, schr., 70 t., added L. Sup. fleet, '45.  
 Swallow, schr., ashore Braddock's Point, '80.  
 Swallow, prop., 256 g. t., b. '73, Trenton, Mich., in com.  
 Swallow, schr., sunk Fairport, '88.  
 Swallow, slyp., 15 g. t., b. '88, Grindstone Island, N. Y., in com.  
 Swan, schr., conveyed American troops to Detroit in 1796.  
 Swan, schr., b. before '38.  
 Swan, schr., 41 t., b. Cleveland, '43.  
 Swan, stmr., 166 t., b. Detroit, '51, burned Toledo, '52, and at Algonac, '54.  
 Swan, tug, burned East Saginaw, '75.  
 Swan, prop., 95 g. t., b. '88, Sandusky, in com.  
 Swan, Can. tug, 27 n. t., b. '96, Port Burwell, in com.  
 Swan, Geo., Can. tug, 22 n. t., b. '94, Kincardine, in com.  
 Swan, M. R., tug, 17 g. t., later the J. H. Upham, Jr.  
 Swansea, prop., 19 g. t., b. '87, Detroit, in com.  
 Swayon, Tom, scow, b. after 1850, Conneaut.  
 Sweden, scow, sunk Buffalo, '45.  
 Sweden, schr., 383 t., b. Kingston, '70.  
 Sweeney, John, bark, wrecked Muskegon, '66.  
 Sweepstakes, schr., 369 g. t., b. '56, Cleveland, in com.  
 Sweepstakes, tug, 227 g. t., b. '67, Cleveland, in com.  
 Sweepstakes, Can. schr., 218 g. t., b. '67, Wellington Sq., in com.  
 Sweetheart, schr., lost L. Hur., '80.  
 Sweetheart, schr., 538 g. t., b. '67, Detroit, in com.  
 Sweet Home, schr., ashore near Dunville, '67.  
 Sweet Mary, Can. prop., 13 g. t., b. '89, Honey Harbor, in com.  
 Sweet, Thomas C., Can. schr., ashore Racine Point, '75.  
 Swift, Can. schr., 34 g. t., b. '52, Port Credit, in com.  
 Swift, schr., lost Wolf Island, L. Ont., '70.  
 Swift, A. R., 457 g. t., b. Detroit, '55.  
 Swift, James, Can. prop., 126 n. t., b. '93, Kingston, in com.  
 Swift, O. L., tug, lost L. Erie, '68.  
 Sylph, schr., 300 t., U. S. v. L. Ont., '13, 10 guns.  
 Sylph, schr., wrecked L. Erie '24, several lives lost.  
 Sylph, schr., b. Clayton about '41, lost near Oswego, '55.  
 Sylvan Glen, schr., 24 g. t., b. '79, Sand Beach, passed out, '97.  
 Sylvan Stream, stmr., 379 g. t., b. '63, Athens, N. Y., later the Empire State.  
 Sylvia, slyp., 8 g. t., b. '83, Bristol, Ont., passed out, '93.  
 Syphax, tug, 10 g. t., later the Pacific.  
 Syracuse, prop., 350 t., b. Oswego, '45.  
 Syracuse, schr., sunk L. Ont., '63.  
 Syracuse, tug, 10 g. t., b. '72, Buffalo, in com.  
 Syracuse, s. prop., 1,917 g. t., b. '84, Wyandotte, in com.  
 Syracuse, stmr., 85 g. t., b. '97, in com.  
 Taber, Horace, schr., 268 g. t., formerly Amoskeage, b. '67, St. Clair, Mich., in com.  
 Table Rock, bge., lost Tawas Point, '72.  
 Tacheclana, Can. prop., 10 g. t., b. '79, Ottawa, in com.



- Tacoma, prop., 1,879 g. t., b. '81, Cleveland, in com.  
 Tacoma, tug, 76 g. t., b. '94, Benton Harbor, in com.  
 Tailor, schr., 298 g. t., b. '67, Marine City, in com. •  
 Talcott, M., stcb., 96 g. t., b. '76, Chicago, in com.  
 Talcott, W. G., schr., total loss L. Erie, '51.  
 Tallahoosa, sty., burned off Long river, '93.  
 Tallahassee, schr., 83 g. t., b. '81, Manitowoc, passed out, '94.  
 Tampa, prop., 1,972 g. t., b. '90, West Bay City, lost L. Sup., '98.  
 Tank, Fred, prop., 91 g. t., b. '89, Ward's Canal, O., later the Coaster.  
 Tanner, schr., in com. '66.  
 Tarrant, Robert, tug, 41 g. t., b. '68, Chicago, in com.  
 Tarrynot, schr., stranded Bois Blanc island, '60.  
 Tartar, schr., abandoned Point Pelee, '70.  
 Tasmania, schr., 979 g. t., b. '71, Port Huron, in com. formerly James Couch.  
 Tawas, tug, 98 t., b. '64, Vicksburg, boiler exploded Port Huron, '74, killing several of the crew.  
 Tay, Can. schr., 154 g. t., b. '80, Hull, in com.  
 Taylor, A. B., prop., 103 g. t., b. '84, Saugatuck, in com.  
 Taylor, Bella, Can. prop., 38 g. t., b. '68, Chatham, in com.  
 Taylor, Ella, Can. tug, 50 n. t., b. '83, Chatham, in com.  
 Taylor, Emily, schr., 55 g. t., b. '93, Ahnapee, in com.  
 Taylor, E. S., scow, b. '57, Black Rock, O., wrecked L. Erie, '60.  
 Taylor, Gen., schr., 245 t., b. Cleveland, '47, wrecked near Chicago, '56.  
 Taylor, Gen., prop., 462 t., b. '48, Buffalo, lost L. Mich., '62.  
 Taylor, Helen, prop., 82 g. t., b. '94, Grand Haven, in com.  
 Taylor, Hetty, schr., sunk near Sheboygan, abandoned, '80.  
 Taylor, Joseph, Can. prop., 17 g. t., b. '94, Lake Du-moine, in com.  
 Taylor, J. H., stcb., 134 g. t., b. '81, Rochester, in com.  
 Taylor, J. V., tug, 40 g. t., b. '81, Buffalo, in com.  
 Taylor, J. V., schr., 199 g. t., b. '68, Winneconne, Wis., in com.  
 Taylor, Mary, Can. schr., 156 t., b. Kingston, '65, now the schr. Loretta Rooney.  
 Taylor, W. F. P., stmr., 95 t., b. Silver Creek, '35, burned afterwards wrecked L. Mich., '42.  
 Taylor, W. J., Can. prop., 9 g. t., b. '83, Chatham, in com.  
 Taylor, W. R., bge., sunk L. Sup., '84.  
 Taylor, W. R., Can. schr., now the Can. schr. S. H. Dunn.  
 Teal, Ellen, schr., wrecked near Chicago, '70.  
 Tecumseh, bge., sunk near Port Huron, '81.  
 Tecumseh, Can. prop., 530 n. t., b. '73, Chatham, sunk L. Sup., '98.  
 Tecumseh, stmr., 259 t., b. '44, Algonac, wrecked, '50, formerly the Fairport.  
 Tecumseth, Can. schr., 207 g. t., b. '62, Goderich, in com.  
 Teed, Bob, tug, 45 g. t., b. '83, Saugatuck, in com.  
 Telegram, Can. prop., 165 n. t., b. '84, Waubashene, in com.  
 Telegraph, schr., 276 t., b. '47, in '84 renamed Jack Thompson.  
 Telegraph, stmr., 196 t., b. near Dexter, N. Y., '36, changed to sail vessel, burned, '52.  
 Telegraph, stmr., 101 t., b. Truago, Mich., '49, sunk by col., L. Erie, '59.  
 Telephone, tug, 19 g. t., b. '80, Lorain, in com.  
 Tell, William, slp., b. '28, Black River, O.  
 Tell, Wm., scow, burned St. Joseph, '69.  
 Teller, Marion, tug, 33 g. t., b. '79, West Bay City, in com.  
 Telmelah, schr., b. Saginaw, '68.  
 Temperance, Can. scow, 84 g. t., b. '73, Welland, in com.  
 Temperance, Can. scow, 38 g. t., b. '77, Tilbury, in com.  
 Temperance, schr., wrecked, '57.  
 Tempest, bge., burned, Marine City, '90.  
 Tempest, prop., 412 g. t., b. '72, Marine City, in com.  
 Tempest, prop., 369 g. t., b. '76, Grand Haven, in com.  
 Tempest, prop., 67 g. t., b. '92, Miami, O., in com.  
 Tempest, prop., burned Marine City, '89.  
 Tempest, schr., 196 g. t., b. '84, Racine, passed out, '92.  
 Tempest, tug, 14 g. t., b. '84, West Bay City, foundered, Cleveland, '91, 3 lives lost.  
 Tempest, schr., ashore L. Mich., '49.  
 Tempest, tug, 15 g. t., b. '84, West Bay City, in com.  
 Tempest, tug, arrived Detroit from Philadelphia, '67.  
 Temple, Flora, schr., wrecked Racine, '70.  
 Temple, M. S., prop., 98 g. t., b. '71, Sault Ste. Marie, passed out, '91.  
 Tender, Can. prop., 31 g. t., b. '80, Toronto, in com.  
 Tennie and Laura, schr., 56 g. t., b. '76, Manitowoc, in com.  
 Tepiakan, Can. prop. 40 n. t., b. '95, Sarnia, in com.  
 Terisa, schr., 10 g. t., b. '82, Port Sanilac, in com.  
 Terrebonne, Can. stmr., 187 n. t., b. '71, Sorel, in com.  
 Teutonia, schr., 594 g. t., b. '81, Marine City, in com.  
 Texas, schr., b. '36, Black River, sunk near Put-in-Bay, '45, wrecked Rondeau, '51.  
 Thal, S., schr., 55 g. t., b. '67, Oshkosh, lost with crew of 5, L. Mich., '98.  
 Thames, schr., 80 t., Can. v. on Lake Erie before '12.  
 Thames, Can. schr., 151 g. t., b. '80, Hull, in com.  
 Thames, Can. stmr., 160 t., b. Chatham, '35, buried by "patriots" at Windsor, '38.  
 Thames, Can. stmr., '82 g. t., b. '88, London, in com.  
 Thames, Can. prop., 76 g. t., b. '72, Chatham, in com.  
 Thatcher, H. C., tug, 50 g. t., b. '78, Toledo, passed out, '94.  
 Thayer, Algie O., tug, passed out.  
 Thayer, J. O., schr., 381 g. t., later the Mike Corry.  
 The Brick, schr., 53 g. t., b. '91, Traverse City, in com.  
 The Cigar Boat, Can. schr., b. '49, Toronto, broken up.  
 The Hope, schr., 14 g. t., b. '70, Holland, in com.  
 The High Rock, Can. sty., 8 g. t., b. '85, Kingston, in com.  
 The Tramp, tug, 41 g. t., b. '90, Benton Harbor, in com.  
 The Windsor, prop., 194 g. t., b. '94, Rochester, passed out, '95.  
 Theattle, schr., 11 g. t., b. '94, Tawas, in com.  
 Theilcke, Flossie, tug, 29 g. t., b. '79, Buffalo, passed out, '93.  
 Theresa, Can. prop., 84 g. t., b. '85, Toronto, in com.  
 Theresa, stmr., burned Toronto, '85.  
 Thermutis, bark, arrived Detroit from Liverpool, '66.  
 Thew, W. P., prop., 207 g. t., b. '84, Lorain, in com.  
 Thiel, Allie, schr., wrecked Chicago, '70.  
 Third Michigan, tug, 40 g. t., b. '69, Ferrysburg, Mich., in com.  
 Thistle, schr., b. Tonawanda, '73.  
 Thistle, Can. schr., 117 g. t., b. '69, Kingston, in com.  
 Thistle, Can. stmr., 145 n. t., b. '82, Toronto, in com., formerly Canadian.  
 Thistle, sty., 49 g. t., b. '87, Chicago, in com.  
 Thistle, Can. tug, 52 n. t., b. '81, Collingwood, in com.  
 Thomas, tug, in com., '80.  
 Thomas, A. D., s. prop., 1,399 g. t., b. '91, West Bay City, in com.  
 Thomas, Almeron, schr., 35 g. t., b. '91, Bay City, in com.

- Thomas, Robert, schr., 16 g. t., b. '97, West Bay City, in com.
- Thomas, Sidney G., s. schr., 3,200 g. t., b. '97, Cleveland, in com.
- Thompson, 242 t., b. Huron, '30.
- Thompson, schr., b. Buffalo, '56.
- Thompson, Annie E., prop., sunk Grand Haven, '86.
- Thompson Bros., tug, 10 g. t., b. '72, Buffalo, passed out, '95.
- Thompson, C. D., tug, 91 g. t., b. '93, Port Huron, in com.
- Thompson, Emma E., prop., 276 g. t., b. '75, Saginaw, in com.
- Thompson, Essie M., schr., 50 g. t., b. '90, Charlevoix, in com.
- Thompson, Jacob, U. S. rev. cut., b. Milan, O., ordered New York, '61.
- Thompson, Jack, schr., 209 g. t., b. '65, Conneaut, lost '94, L. Mich., formerly schr. Telegraph.
- Thompson, Maggie, schr., 155 g. t., b. '67, Whitehall, Mich., in com.
- Thompson, Maggie, schr., capsized L. Mich., '88.
- Thompson, Sheldon, stmr., 241 t., b. Huron, '25, broken up, '37.
- Thompson, Thomas, tug, burned L. Erie, '77.
- Thompson, Thomas, tug, 19 g. t., b. '73, Buffalo, in com.
- Thompson, D. G., Can. tug, 205 n. t., b. '83, Kingston, in com.
- Thora, tug, 24 g. t., b. '93, Grand Haven, in com.
- Thorine, Annie, schr., 89 g. t., b. '55, Manitowoc, in com.
- Thorne, John, i. stmr., 119 g. t., later the Islander.
- Thornholme, stmr., aground Barrel Ledge rock, '90.
- Thornton, schr., wrecked L. Mich., '50, several lives lost.
- Thornton, schr., damaged by col., L. Hur., '60, sunk '70.
- Thousand Island Rambler, Can. prop., 36 g. t., b. '81, Burdettown, in com.
- Thousand Islands, schr., b. Clayton, L. Ont., before '52.
- Three Bells, bge., lost L. Mich., '69.
- Three Bells, schr., 305 t., b. Buffalo, '54.
- Three Bells, schr., 60 g. t., b. '54, Racine, in com.
- Three Brothers, schr., 349 g. t., b. '73, Black River, O., in com.
- Three Links, schr., 7 g. t., b. '93, in com.
- Three Rivers, Can. stmr., 656 n. t., b. '74, Sorel, in com.
- Throop, Lizzie, wrecked L. Mich., '54.
- Thrush, Can. bge., 649 n. t., b. '90, Montreal, in com.
- Thurber, Francis B., stch., 131 g. t., b. '80, Lockport, N. Y., in com.
- Thursby, John, schr., 360 t., lost Grand Traverse, '67.
- Thurso, Can. schr., 153 g. t., b. '87, Rockland, in com.
- Thurso, Can. prop., 20 g. t., b. '92, Rockland, in com.
- Thurston, Geo., schr., ashore Point Edward, '76.
- Thurston, Geo., bark, 324 t., total loss, '69.
- Tilbsett, stmr., collided with stmr. Ottawa, '55.
- Tilbsetts, John, schr., in com. about '50, sunk L. Erie, '83.
- Tilbsetts, John, schr., 250 t., wrecked Cedar Creek, '88.
- Tice, Edwin S., prop., 728 g. t., b. '87, Manitowoc, in com.
- Tiffany, J. H., sunk by col. with prop. Milwaukee, '59, 5 lives lost.
- Tift, J. H., tug, 26 t., b. '70.
- Tiger, schr., 62 t., on lakes before '30.
- Tiger, tug, burned Bay City, '70.
- Tigress, U. S. schr., 96 t., 1 gun, b. Erie, '13, in battle Lake Erie, captured by British, L. Hur., '14.
- Tilden, S. J., schr., 613 g. t., b. '69, Cleveland, in com.
- Tilden, S. J., schr., 582 t., sunk by col. near Port Huron, '86.
- Tilley, Sir L., Can. prop., 804 n. t., b. '84, St. Catharines, in com.
- Tillinghast, Thos. A., tug, burned near Erie, '76.
- Time, prop., 18 g. t., b. '84, Cheboygan, in com.
- Times, scow, b. after 1850, passed out.
- Tindall, Dan, schr., lost, '71.
- Tinker, scow, 8 g. t., b. '84, Port Huron, passed out '93.
- Tinto, prop., burned Kingston, '56, 18 lives lost.
- Tinto, Dick, stmr., 205 t., b. Cleveland, '54.
- Tioga, stmr., boiler exploded, Chicago, '90, many lives lost.
- Tioga, prop., 549 t., b. Cleveland, '62, burned off Point Pelee, '77.
- Tioga, i. prop., 2,085 g. t., b. '85, Buffalo, in com.
- Tippecanoe, schr., 50 g. t., b. '36, Maumee, O.
- Tisdale, H. G., i. prop., 81 g. t., b. '72, Philadelphia, in com.
- Tiskillwa, stmr., sunk by col., '37, several lives lost.
- Titan, schr., 336 t., lost with all hands, Pentwater, '69.
- Titania, i. sty., 73 g. t., b. '75, Buffalo, in com.
- Titania, Can. prop., 17 g. t., b. '91, Kingston, in com.
- Tobey, H. P., i. sty., 8 g. t., b. '90, Toledo, in com.
- Toboggan, scow, b. '86, sunk near Milwaukee, '87.
- Todd, David, schr., in com., '61.
- Todman, H. N., Can. schr., 158 n. t., b. '67, Wellington, in com.
- Todman, H. N., schr., stranded L. Hur., '81.
- Tokio, schr., 1,385 g. t., b. '89, West Bay City, in com.
- Toledo, Can. bge., 378 n. t., b. '72, Quebec, in com.
- Toledo, brig, 216 t., b. Southport, in com., '45.
- Toledo, prop., 579 g. t., b. '62, Cleveland, wrecked Portage, '98.
- Toledo, prop., 585 t., b. Buffalo, '54, sunk L. Mich., '56, over 40 lives lost.
- Toledo, schr., 130 t., b. Buffalo, '36, wrecked L. Erie '38.
- Toledo, schr., 140 t., b. East Oswego, '43, wrecked L. Mich., '75.
- Toledo, tug, 5 t., b. '69.
- Toltec, prop., 767 g. t., b. '89, Marine City, in com.
- Tomine, Annie, scow, capsized L. Mich., '85.
- Tomlinson, G. A., tug, 78 g. t., b. '96, West Bay City, in com.
- Tompkins, Gov., schr., 96 t., originally Charles & Ann, U. S. v., on L. Ont., '12, 8 guns.
- Toms, Fred, Can. schr., 161 g. t., b. '81, Ottawa, in com.
- Tonawanda, prop., in com., '61, sunk '70, near Buffalo, raised '71.
- Tonawanda, tug, 31 g. t., b. '93, Buffalo, in com.
- Toneata, Can. prop., 14 g. t., b. '85, Kingston, in com.
- Topeka, prop., 1,376 g. t., b. '89, Milwaukee, in com.
- Topsey, schr., lost '91, L. Mich.
- Topsy, Can., sty., 9 g. t., b. Midland, '96.
- Topsy, Can. scow, 21 g. t., b. '66, Iroquois, in com.
- Tornado, schr., in com., '65, passed out.
- Toronto, Can. bge., 400 n. t., b. '75, Montreal, in com.
- Toronto, Can. prop., for early U. S. stmr. Gen. Porter.
- Toronto, Can. stmr., 200 t., b. Toronto, '25, broken up.
- Toronto, Can. stmr., b. Toronto, '98.
- Toronto Belle, Can. prop., 17 g. t., b. '80, Toronto, in com.
- Toronto Yacht, Can. y., b. 1799, wrecked '12.
- Torrent, bark, sunk Port Stanley, '63.
- Torrent, tug, 203 g. t., b. '69, Cleveland, in com.
- Torrent, Ida M., prop., 338 g. t., b. '81, Mt. Clemens, burned Cross Village, Mich., '93.

- Torrent, John, tug, 18 g. t., b. '75, Muskegon, in com.  
 Torrent, Nellie, prop., 302 g. t., b. '81, Detroit, in com.  
 Toucy, Isaac, U. S. rev. cut., b. Milan, O., ordered New York, '61.  
 Tourist, stmr., burned Ashland, '90.  
 Tourist, stmr., 66 g. t., b. '97, St. Joseph, burned St. Joseph, '98.  
 Towar, Chas., Jr., prop., 1,825 g. t., b. '86, Cleveland, in com.  
 Townsend, Chas., stmr., 312 t., b. Buffalo, '35, condemned, '49.  
 Townsend, Oscar, prop., 1,037 g. t., b. '73, Port Huron, burned L. Hur., '91.  
 Tracy, schr., 53 t., b. Detroit, '02, by U. S. Gov., lost on reef off Fort Erie, '09.  
 Tracy, Frank, tug, 6 g. t., b. '71, Erie, in com.  
 Tracy, J. F., schr., 161 t., ashore Beaver island, '86.  
 Tracy, M. & J., stcb., 137 g. t., b. '87, Buffalo, in com.  
 Trade Wind, prop., 150 t., b. Marine City, '65, boiler exploded, L. Hur., '66, 3 lives lost.  
 Trader, schr., in com., '45.  
 Trader, schr., 10 g. t., b. '86, Fort Howard, in com.  
 Trader, schr., 6 g. t., b. '80, Manistee, passed out, '96.  
 Trade Wind, bark, sunk L. Erie, '54.  
 Trade Wind, Can. schr., 195 n. t., b. '53, Port Colborne, in com.  
 Trafalgar, Can. schr., in com., '65.  
 Traffic, stmr., total wreck near Sebewaing, '68.  
 Traffic, tug, burned Saginaw, '69.  
 Tranchemontague, Can. schr., wrecked, Oswego, '80.  
 Transfer, prop., 177 g. t., b. '88, Saginaw, passed out, '96.  
 Transfer, prop., 16 g. t., b. '82, St. Clair, passed out, '97.  
 Transfer, s. stmr., 1,511 g. t., b. '88, Cleveland, in com.  
 Transfer, schr., 360 g. t., b. '74, Grand Haven, in com.  
 Transit, Can. prop., 150 n. t., b. '74, Clayton, in com.  
 Transit, Can. prop., 109 g. t., b. '56, Toronto, in com.  
 Transit, Can. stmr., originally Constitution  
 Transit, Can. stmr., 350 g. t., b. '32, Oakville, wrecked.  
 Transit, schr., 92 g. t., b. '54, Manitowoc, passed out, '95.  
 Transport, i. stmr., 1,594 g. t., b. '80 Wyandotte, in com.  
 Transport, bge., lost, '71.  
 Traveler, prop., 438 g. t., formerly Justice Field.  
 Traveler, schr., 109 t., lost L. Mich., '69.  
 Traveler, schr., sunk Port Burwell, '55.  
 Traveler, schr., 5 g. t., b. '70, Grand Haven, passed out, '93.  
 Traveler, schr., b. before 1850, Conneaut.  
 Traveler, stmr., 603 t., b. Newport, '52, burned Chicago, '54, and at Eagle Harbor, '65.  
 Traveler, tug, 437 g. t., b. '71, Sheboygan, in com.  
 Traveler, Can. tug, 108 g. t., b. '75, Garden Island, in com.  
 Traveller, schr., 74 t., b. Milwaukee, passed out.  
 Traveller, Can. stmr., 350 g. t., b. '35, Niagara.  
 Traveller, stmr., 603 t., burned L. Sup., '65.  
 Travis, A., schr., 101 g. t., b. '67, Pentwater, wrecked Cana island, '93.  
 Travis, J. A., scow, capsized L. Mich., '68.  
 Treat, Wm., brig, 389 t., b. '56, lost L. Hur., '83.  
 Tremble, M. E., schr., sunk by col. near Fort Gratiot, '90.  
 Trent, Can. tug, 20 g. t., b. Simcoe, '97, in com.  
 Trenton, schr., 133 t., b. Charleston, O., '43, lost L. Mich., '56.  
 Trenton, Can. stmr., 260 t., burned Picton, '57.  
 Trenton, foundered off Presque Isle, '79.  
 Trenton, tug, 9 g. t., b. '93, Buffalo, passed out, '97.  
 Trerice, Byron, Can. tug, 200 n. t., b. Dresden, '82, burned, '93.  
 Trevor, John B., prop., 1,713 g. t., b. '95, West Superior, in com.  
 Tribune, schr., 276 t., b. Chicago, '47, foundered L. Mich., '48, 10 lives lost.  
 Tri-Color, schr., damaged, '72.  
 Trident, schr., 248 t., b. Ohio City, '47.  
 Trinidad, schr., 370 t., b. Grand Island, '67.  
 Trio, schr., 70 g. t., b. '64, Ganges, Mich., in com.  
 Trio, prop., 16 g. t., b. '83, Buffalo, in com.  
 Trippe, slp., 64 t., formerly Contractor, b. '02, bought by U. S. Gov., 1 gun, in battle L. Erie, burned by British, Buffalo, '12.  
 Triton, Can. prop., 11 g. t., b. '82, Massena, N. Y., in com.  
 Triton, schr., ashore Long Island, '51.  
 Triumph, schr., in com. about '16, ashore L. Ont., '20.  
 Triumph, schr., 120 t., wrecked near Chicago, '65.  
 Trix, slp., 6 g. t., b. '95, in com.  
 Trojan, schr., b. '62, Ashtabula.  
 Trombley, Jose, schr., 17 g. t., b. '81, Sebewaing, in com.  
 Tropic, Can. prop., 9 g. t., b. '85, Smith's Falls, in com.  
 Trout, Can. schr., 96 g. t., b. '70, Montreal, in com.  
 Trowbridge, C. C., schr., 30 g. t., b. Detroit, '33, sunk by col. off Bar Point, '57.  
 Trowbridge, C. C., schr., 242 g. t., b. '56, Detroit, passed out, '95.  
 Trowbridge, C. C., flat bottomed steamboat, 52 t., b. Saugatuck, '38, condemned Milwaukee.  
 Troy, prop., foundered L. Hur., '59, 23 lives lost.  
 Troy, prop., burned Erie, '50.  
 Troy, schr., 122 t., b. Conneaut, '43, lost near Manitou, '43.  
 Troy, stmr., 747 t., b. Maumee, '45, boiler exploded, '50, 22 lives lost, wrecked Goderich, '60.  
 Troy, schr., b. Cape Vincent before '53.  
 Troy, s. prop., 5,250 n. t., b. Detroit, '98, in com.  
 Troy, schr., 486 g. t., b. '72, Marine City, in com.  
 Troy, Henry, tug, 27 g. t., b. '91, Grand Haven, in com.  
 Truant, sty., 32 g. t., b. '76, Bristol, R. I., later the Pilgrim.  
 Truant, s. sty., 100 g. t., b. '92, Bristol, R. I., in com.  
 Truant, Can. tug, 44 n. t., b. Toronto, '89, burned, Georgian Bay, '94.  
 Trudeau, Can. tug, 83 n. t., b. '74, Buffalo, in com.  
 Trudel, H., Can. prop., 13 g. t., b. '90, Simcoe, in com.  
 True, O. J., tug, 16 g. t., b. '81, Port Clinton, O., in com.  
 True Britton, stmr., b. Cobourg.  
 Truesdell, prop., ashore Sturgeon bay, '77.  
 Truesdell, G. J., prop., 302 g. t., later the John Otis.  
 Truman, sty., 31 g. t., b. '94, Chicago, passed out, '97.  
 Trumpff, G. C., schr., 335 g. t., later the Arthur.  
 Truscott, tug, 11 g. t., b. '72, Buffalo, in com.  
 Trush, Can. bge., 649 n. t., b. '90, Montreal, in com.  
 Truxbury, A. C., schr., 679 g. t., b. '90, West Bay City, in com.  
 Tubal Cain, 340 t., bark, b. Detroit, '66, lost Two Rivers, L. Mich., '67.  
 Turner, bark, ashore Milwaukee, '75.  
 Turner, Alvin A., prop., 309 g. t., b. '73, Trenton, Mich., in com.  
 Turner, A. A., prop., sunk by col., L. Ont., '74.  
 Turner, Eliza, schr., in com., '73, wrecked Long Point, '77.  
 Turtle, Can. prop., 33 g. t., b. '92, Cache Bay, in com.  
 Tuscarora, brig, wrecked '55, near Chicago.  
 Tuscarora, s. prop., 2,386 g. t., b. '90, Cleveland, in com.  
 Tuscarora, schr., wrecked Oswego, '85.



- Tuscola, schr., 221 t., b. Grand Haven, '64, wrecked near Glencoe, '78.
- Tuthill, Fannie, tug 27 g. t., b. '73, Saginaw, in com.
- Tuttle, Horace A., prop., 1,585 g. t., b. '87, Cleveland, lost Michigan City, '98.
- Tuttle, H. B., prop., 844 g. t., b. '71, Cleveland, in com.
- Tuttle, M., schr., 57 g. t., b. '70, Black River, O., in com.
- Tweed, Wm. M., prop., b. Buffalo, '71.
- Twilight, schr., lost L. Ont., '59.
- Twilight, schr., 395 t., b. Cleveland, '62, lost L. Hur., '87, 7 lives lost.
- Twilight, tug, 18 g. t., b. '72, Ferrysburg, Mich., in com.
- Twin, schr., in com. '49, passed out.
- Twin Brother, schr., foundered at sea, '60.
- Twin City, stmr., 1,000 t., b. Buffalo, '48.
- Twin Sisters, schr., 275 t., b. Cleveland, '54, passed out.
- Twin Sisters, schr., 806 g. t., b. '89, West Bay City, in com.
- 201, prop., 948 g. t., b. '90, Brooklyn, N. Y., in com.
- 202, prop., 948 g. t., b. '90, Brooklyn, N. Y., in com.
- Two Brothers, schr., on Lake Ont. before '09.
- Two Brothers, Can. schr., 100 g. t., b. '20, York.
- Two Brothers, schr., wrecked Buffalo, '35.
- Two Brothers, Can. schr., 165 n. t., b. '68, Port Burwell, in com.
- Two Brothers, schr., 32 g. t., b. '81, Erin, Mich., in com.
- Two Brothers, schr., 8 g. t., b. '93, Chicago, in com.
- Two Brothers, Can. scow, 131 g. t., b. '67, Port Robinson, in com.
- Two Brothers, Can. scow, 93 n. t., b. '81, Battersea, in com.
- Two Brothers, tug, 38 g. t., b. '91, Sheboygan, in com.
- Two Brothers, tug, 26 g. t., later the Munson.
- Two Charlies, schr., in com., '53, passed out.
- Two Friends, prop., 310 g. t., later the Pewaukee.
- Two Fannies, bark, in col. with bark Adriatic, '63, wrecked Elk Rapids, '79.
- Two Fannies, schr., sunk L. Erie, '90.
- Two Henrys, prop., 76 g. t., b. '89, Milwaukee, in com.
- Two Kitties, schr., 10 g. t., b. '90, Bay City, in com.
- Two Sisters, schr., 34 g. t., b. '83, Erin, Mich., in com.
- Tycoon, schr., 287 g. t., b. '95, West Bay City, in com.
- Tyler, John, schr., in com., '43, passed out.
- Tymon, A. J., Can. prop., 237 n. t., formerly W. M. Alderson, b. '92, Toronto, in com.
- Typo, schr., 335 g. t., b. '73, Milwaukee, in com.
- Tyrone, s. schr., 2,117 g. t., b. '95, Cleveland, in com.
- Tyson, Emma E., schr., 356 g. t., b. '71, Manistee, in com.
- U. C. Me, sty., 11 g. t., b. '93, in com.
- Uarda, sty., 89 g. t., b. '81, Buffalo, in com.
- Uganda, prop., 2,054 g. t., b. '92, West Bay City, in com.
- Umbria, Can. tug, 48 n. t., b. '89, Port Dalhousie, in com.
- Una, Can. schr., 37 g. t., b. '86, Burlington, in com.
- Una, schr., 44 g. t., b. '77, Grand Haven, in com.
- Unadilla, schr., 396 g. t., b. '62, Cleveland, in com.
- Uncle Ben, tug, b. Buffalo, '56, chartered by U. S. Gov. '61, for coast service.
- Uncle Charley, tug, 25 g. t., b. '88, Saugatuck, in com.
- Uncle Jim, Can. prop., 11 g. t., b. '87, Wallaceburg, in com.
- Uncle John, Can. prop., 7 g. t., b. '81, Wallaceburg, in com.
- Uncle Sam, schr., 174 t., b. Black Rock, '33.
- Uncle Sam, stmr., 280 t., b. Grosse Isle, Mich., '32, made into sail vessel, '44.
- Uncle Sam, tug, destroyed by ice in Straits, '82.
- Uncle Sam, tug, 24 g. t., b. '63, Chicago, formerly Little Giant, in com.
- Uncle Tom, schr., 116 t., b. St. Clair, '42, wrecked Long Point, '48.
- Uncle Tom, schr., 40 t., added L. Sup. fleet, '45.
- Uncle Tom, Can. tug, 11 n. t., b. '93, Port Bruce, in com.
- Underwriter, prop., 107 t., b. Buffalo, '53.
- Undine, schr., ashore Muskegon, '56.
- Undine, formerly Alliance, Det. ferry boat.
- Undine, schr., 222 t., b. Hamilton, '68, stranded L. Ont., '90.
- Undine, Can. prop., 17 g. t., b. '89, Toronto, in com.
- Union, brig, 93 tons, first merchant brig on lakes, b. Huron, '14.
- Union, brig, 104 t., b. Buffalo, passed out.
- Union, Can. sail v., b. Toronto about '25, made into stmr. Niagara.
- Union, Can. stmr., 150 g. t., b. '34, Oakville, changed into bark.
- Union, schr., wrecked '37.
- Union, stmr., 64 t., b. Black Rock, '43, broken up, '50.
- Union, stmr., 1,000 t., b. Windsor, '66, ferry for railroads at Detroit.
- Union, schr., wrecked near Milwaukee, '64.
- Union, schr., 52 t., b. Sheboygan, '67, sunk Milwaukee, '71.
- Union, tug, boiler exploded off Chicago, '62, 3 lives lost.
- Union, tug, burned Saginaw bay, '70.
- Union, tug, 37 g. t., b. '53, Chicago, passed out, '93.
- Union, scow, wrecked St. Joseph, '70.
- Union, Can. stmr., now Can. stmr. Saguenay.
- Union, Can. stmr., 182 n. t., b. '64, Kingston, in com., formerly Watertown.
- Union, Can. prop., 267 g. t., b. '66, Kingston, in com.
- Union, Can. prop., 75 g. t., b. '90, Pembroke, in com.
- Union Jack, schr., 317 t., b. Mill Point, '67.
- Unique, prop., 381 g. t., b. '94, Marine City, in com.
- United, stmr., 71 t., b. Detroit, '34, ferry boat, Alliance, '36 to '53, then wood barge Undine, sunk by col. St. Clair flats, '79.
- United Empire, Can. prop., 1,336 n. t. b. '83, Sarnia, in com.
- United Express, b. '56, Detroit, passed out.
- United Lumberman, Can. prop., 462 n. t., b. '84, Dresden, in com.
- United States, schr., 194 t., b. before '32.
- United States, stmr., b. Oswego, '32, broken up, Oswego, '43.
- United States, , stmr., 366 t., b. Huron, O., '35, broken up at Buffalo.
- Uno, slp., 16 g. t., b. '82, Clayton, in com.
- Uno, Can. bge., 75 g. t., b. '93, Wallaceburg, in com.
- Upas, Can. sty., 17 g. t., b. '92, Kingston, in com.
- Upham, J. H., Jr., tug, 17 g. t., formerly M. R. Swan, b. '80, Buffalo, in com.
- Upper, M. C., schr., sunk Toledo, '88.
- Upper Traverse, Can. schr., 97 g. t., in com.
- Upright, A. R., schr., 24 g. t., b. '83 Charlevoix, passed out, '97.
- Uranus, schr., 524 g. t., b. '73, New Jerusalem, O., in com.
- Uretta, schr., 20 t., passed out.
- Utica, schr., capsized L. Erie, '33.
- Utica, schr., b. Clayton, L. Ont., before '52.
- Utica, bark, 334 t., b. Chicago, '46, wrecked Buffalo, '54.
- Utica, Can. prop., 52 g. t., b. '73, Ogdensburg, in com.
- Vacuna, prop., 47 g. t., b. '96, Bristol, R. I., in com.
- Vail, Walter, prop., 726 g. t., b. '90, West Bay City, in com.

- Val, Walter, sty., 18 g. t., later the Laurel.  
 Valconi, prop., 16 g. t., b. '90, Shelburne, Vt., passed out, '91.  
 Valcour, prop., 10 g. t., b. '90, Shelburne, Vt., in com.  
 Valencia, Can. bge., 650 n. t., b. '88, Garden Island, in com.  
 Valentine, schr., b. Conneaut, stranded Port Austin, '73.  
 Valeria, schr., arrived Cleveland from Liverpool, '59.  
 Valeria, Can. prop., 39 n. t., b. '91, Kingston, in com., formerly Lorelie.  
 Valerie, tug, 59 g. t., formerly Golden Eagle, b. '72, Sandusky, in com.  
 Valetta, Can. bark, burned Chicago fire, '71.  
 Valiant, sly., 9 g. t., b. '94, in com.  
 Valiant, prop., 40 g. t., b. '94, Benton Harbor, in com.  
 Valina, prop., 15 g. t., b. '96, Ogdensburg, in com.  
 Valletta, prop., 27 g. t., b. '87, Syracuse, in com.  
 Valley, scow, ashore, Pt. Albino, '56.  
 Valley, Ed., schr., 13 g. t., b. '81, Sebewaing, passed out, '94.  
 Valley City, s. stmr., 264 g. t., b. '92, Toledo, in com.  
 Valley Mills, prop., 36 g. t., b. '80, Cleveland, in com.  
 Vampire, schr., 143 t., b. Ashtabula, '68, capsized Pigeon bay, '70.  
 Van Allen, D. R., Can. prop., 328 n. t., b. '74, Chatham, in com.  
 Van Allen, S. R., Can. stbge., 318 g. t., b. '81, St. Catharines, in com.  
 Van Buren, tug, burned Buffalo, '69.  
 Van Ellis, H. M., tug, 28 g. t., b. '95, Sheboygan, in com.  
 Van Epps, Sarah, stmr., 179 t., b. Fort Howard, '62.  
 Van Horne, E. A., prop., 10 g. t., b. '81, Oswego, in com.  
 Van Raalte, A. C., stmr., lost L. Mich., '88.  
 Van Raalte, A. C., tug, 176 g. t., b. '67, Buffalo, in com.  
 Van Schaick, A. G., tug, 39 g. t., b. '72, Chicago, in com.  
 Van Slyke, C. A., sunk Black Rock, '43.  
 Van Straubenzie, Sir T. C., Can. schr., 400 n. t., b. '75, St. Catharines, in com.  
 Van Valkenberg, Lucinda, schr., 286 t., b. '62, Tonawanda, sunk by col., Thunder bay, '87.  
 Nan Winkle, Rip, schr., 235 t., b. Chaumont, N. Y., '47.  
 Vanatta, W., schr., 223 t., b. Erie, '62.  
 Vance, David, schr., sunk Amherstburg, '86.  
 Vance, Frank L., prop., 1,731 g. t., b. '87, Cleveland, in com.  
 Vance, Gen., stmr., 75 t., b. Perrysburg, '78, exploded near Windsor, '44, 9 lives lost.  
 Vandalia, first prop. on lakes, sloop-rigged, 138 t., b. '41, Oswego, passed through Welland canal '42, enlarged '46 to 200 t., and renamed the Milwaukee.  
 Vandalia, Can. prop., wrecked by col., L. Erie, '51.  
 Vanderbilt, W. H., schr., 520 t., b. Saginaw, '67, foundered Long Point, '83.  
 Vanderbilt, Can. prop., 318 g. t., b. '73, Chatham, in com.  
 Vanderbilt, prop., 1,302 g. t., b. '71, Port Huron, in com.  
 Vanenna, sly., 19 g. t., b. '96, in com.  
 Vanetta, bge., 152 t., b. '62, wrecked L. Erie, '86.  
 Vanguard, bark, name changed to Wirralite in '65.  
 Varuna, Can. prop., 72 n. t., b. '80, Picton, in com.  
 Vega, schr., 200 g. t., formerly A. J. Covill, b. '56, Erie, in com.  
 Vega, Can. prop., 7 g. t., b. '84, Kingston, in com.  
 Vega, Can. prop., 146 n. t., b. '84, Levis, in com.  
 Vega, s. prop., 2,143 g. t., b. '93, Cleveland, in com.  
 Velocipede, schr., wrecked near Racine, '77.  
 Velocipede, tug, 36 t., b. '70, passed out.  
 Velocity, schr., 162 t., b. Buffalo, '43.  
 Vencedor, sly., 18 g. t., b. '96, in com.  
 Venezuela, prop., 2,125 g. t., b. '97, West Bay City, in com.  
 Venice, brig, 253 t., b. before '52, passed out since '68.  
 Ventura, Can. sty., 7 g. t., b. '90, Kingston, in com.  
 Venture, schr., 101 g. t., b. '69, Green Bay, abandoned, '97.  
 Venture, schr., 20 g. t., b. '81, Conneaut, passed out '96.  
 Venture, scow, sunk by col., Two Rivers, '88.  
 Venture, sty., 13 g. t., b. '93, Chicago, in com.  
 Venus, schr., 14 t., passed out.  
 Venus, schr., 221 t., b. '72, foundered with all hands, Thunder Bay, '87.  
 Venus, stcb., 130 g. t., b. '80 Ithaca, later the Gowanda.  
 Vera, Can. prop., 13 n. t., b. '90, Rondeau, in com.  
 Vera, sty., 10 g. t., b. '86, Ludington, in com.  
 Verbenia, May, Can. tug, 16 g. t., stranded L. Hur. '96.  
 Vergey, Can. prop., 18 g. t., b. '88, Picton, in com.  
 Vermilion, schr., 59 t., b. Vermilion river, '14.  
 Vermilion, stmr., 385 t., b. Vermilion, '38, burned Huron, '42, 5 lives lost, raised, rebuilt and named the New Orleans.  
 Vermont, schr., 100 t., b. St. Clair, '42, lost Grand Haven, '55.  
 Vermont, prop., burned Grand River, Can., '52.  
 Vermont, prop., sunk L. Erie by col., '63.  
 Vermont, schr., 81 g. t., b. '53, Huron, in com.  
 Vermont, stmr., 1,124 g. t., b. '71, Shelburne, Vt., in com.  
 Verna, slp., 6 g. t., b. '87, Grand Haven, passed out, '92.  
 Vernon, prop., 560 t., b. '66, sunk L. Mich., '87, 36 lives lost.  
 Verona, schr., 728 g. t., b. '73, Cleveland, chartered ocean service, '98.  
 Veronica, prop., 1,093 g. t., b. '86, Milwaukee, in com.  
 Verve, y., arrived Chicago from Scotland, '84.  
 Verve, Can. schr., 14 g. t., b. '77, Glasgow, in com.  
 Vesta, Eugenia, schr., 140 g. t., formerly Russia, b. '76, Pt. Credit, Ont., in com.  
 Vesta, Can. prop., 14 g. t., b. '84, Ottawa, in com.  
 Vestey, V., prop., 95 g. t., b. '87, Grand Haven, passed out, '95.  
 Veto, schr., 56 g. t., b. '79, Egg Harbor, Wis., passed out, '94.  
 Vick, Can. tug, 16 n. t., b. '89, Chatham, in com.  
 Vickery, A., schr., sunk near Rock Island, '89.  
 Victor, schr., b. 36, lost with all hands, L. Erie, '39.  
 Victor, schr., lost L. Mich., '44, 8 lives lost.  
 Victor, stcb., 101 g. t., b. '75, Lockport, Ill., in com.  
 Victor, Can. tug, 48 n. t., b. '75, Quebec, in com.  
 Victor, Can. schr., 140 g. t., b. '91, Monte Bello, in com.  
 Victor, prop., 26 g. t., b. '97, Vergennes, Vt., in com.  
 Victor, sty., 13 g. t., b. '97, Toledo, in com.  
 Victor, schr., lost '88, L. Huron.  
 Victoria, Can. stmr., b. '50, Toronto, ferry boat at Toronto.  
 Victoria, schr., 280 t., b. Oakville, '62.  
 Victoria, Can. prop., 191 g. t., b. '67, Lindsay, in com.  
 Victoria, Can. stmr., listed and sank in Thames river, with 600 passengers, '81; 181 drowned.  
 Victoria, Can. tug, now the Can. tug Lillie.  
 Victoria, prop., sunk L. Huron '84.  
 Victoria, Can. scow, 156 g. t., b. '70, Welland, in com.  
 Victoria, prop., 192 g. t., b. '72, Detroit, in com.  
 Victoria, Can. prop., 66 n. t., b. '95, Sorel, in com.  
 Victoria, schr., lost '71.  
 Victoria, Can. tug, 3 g. t., foundered Georgian Bay, '96.  
 Victory, English vessel, built 1764.

- Victory, stmr., 77 t., b. Buffalo, '34, broken up Buffalo.  
 Victory, prop., b. Cleveland, '45.  
 Victory, s. prop., 3,774 g. t., b. '95, Chicago, in com.  
 Vidar, brig, arrived Chicago from Norway, '66.  
 Vieau, schr., in com. '46, passed out.  
 Vienna, stmr., foundered L. Sup., '73.  
 Vienna, Can. schr., 166 n. t., b. '71, Port Burwell, in com.  
 Vienna, prop., 1,005 g. t., b. '73, Cleveland, passed out, '92.  
 Vienna, Can. schr., wrecked Manitou Beach, '93.  
 Vigilant, English vessel on L. Ont., 1760.  
 Vigilant, prop., 372 g. t., b. '96, Port Huron, in com.  
 Viking, from Norway to World's Fair, '93.  
 Viking, i. prop., 1,117 g. t., b. '89, Buffalo, in com.  
 Viking, Can. slp., 71 n. t., b. '91, Port Dover, in com.  
 Viking, sty., 55 g. t., b. '91, Cleveland, passed out, '92.  
 Vilas, Joe, schr., in com., '62, passed out.  
 Vincennes, schr., 195 t., b. '46, Black River, O., passed out.  
 Vincent, Hattie, Can. tug, 37 n. t., b. '75, Dunkirk, in com.  
 Vinland, schr., 965 g. t., b. '96, Algonac, in com.  
 Viola, Can. prop., 68 g. t., b. '83, Levis, in com.  
 Viola, tug, 31 g. t., b. '89, Saugatuck, in com.  
 Viola, schr., 54 g. t., b. '88, Gross Point, Mich. in com.  
 Viola, prop., 30 g. t., b. '89, Saugatuck, passed out, '91.  
 Violet, tug, 18 g. t., b. '90, Benton Harbor, in com.  
 Virago, scow, in com. '50.  
 Virginia, schr., 130 t., in L. Mich. trade, '23.  
 Virginia, brig, 128 t., b. before '38, lost off Long Point, '55.  
 Virginia, Can. bge., 194 n. t., b. '74, Montreal, in com.  
 Virginia, s. prop., 1,606 g. t., b. '91, Cleveland, in com.  
 Virginia, tug, 22 g. t., b. '97, Alexandria Bay, in com.  
 Virginia, prop., 510 g. t., later the Thos. D. Stimson.  
 Virginia, Mary, tug, 32 g. t., b. '80, Lorain.  
 Virginius, bge., 422 t., b. Mt. Clemens, '81.  
 Visger, Capt., prop., 29 g. t., b. '95, Alexandria Bay, in com.  
 Vision, Can. schr., 66 g. t., b. '73, Dog Lake, in com.  
 Vision, sty., 98 g. t., b. '90, Buffalo, in com.  
 Visitor, schr., sunk L. Erie, '55.  
 Visitor, s. sty., 70 g. t., b. '92, Detroit, in com.  
 Vita, sty., 69 g. t., b. '88, Trenton, Mich., in com.  
 Viva, sty., 30 g. t., b. '82, Chicago.  
 Vivid, Can. prop., 56 g. t., b. '86, Toronto, in com.  
 Vixen, Can. tug, 30 n. t., b. '85, Drummond Island, in com.  
 Voges, Theodore, schr., 163 g. t., b. '76, Black River, O., in com.  
 Voigt, Ida, schr., 13 g. t., b. '81, in com.  
 Volanta, i. sty., 33 g. t., formerly Rosaline, b. '75, Buffalo, in com.  
 Volley, Ed., schy., 18 g. t., b. '81, Sebawaing, in com.  
 Volunteer, schr., 52 g. t., b. '63, Ogdensburg, wrecked Port Austin, '93.  
 Volunteer, schr., 258 t., lost '93, L. Hur.  
 Volunteer, tug, 34 g. t., b. '87, Fort Howard, in com.  
 Volunteer, tug, 20 g. t., b. '88, Ludington, in com.  
 Volunteer, schr., 31 g. t., b. '89, Saganing, Mich., in com.  
 Volunteer, prop., 1,944 g. t., b. '88, Trenton, Mich., in com.  
 Volunteer, Can. schr., 58 n. t., '91, Dog Lake, in com.  
 Vought, Annie, schr., 680 g. t., b. '67, Fairport, wrecked L. Mich., '92.  
 Vulcan, Can. schr., 150 g. t., b. '41, Kingston, passed out.  
 Vulcan, tug, 249 t., b. '68, burned L. Erie, '83.  
 Vulcan, s. prop., 1,759 g. t., b. '89, Cleveland, in com.  
 Vulcan, sty., 19 g. t., b. '91, Detroit, in com.  
 Wabash, brig, 314 t., b. Sacket's Harbor, '45, sunk near Chicago, '51.  
 Wabash, schr., 103 t., b. '36, wrecked at Port Dover, '51.  
 Wabash, stmr., 34 t., b. Perrysburg, '38, broken up.  
 Wabash, prop., 721 t., b. 62, sunk Port Huron by col., '70.  
 Wabash, schr., 315 t., b. '73, wrecked L. Sup., '83.  
 Wabasha, stmr., 44 g. t., b. '94, in com.  
 Wabash Valley, prop., wrecked Muskegon, '60.  
 Wade, B. F., schr., 148 g. t., b. '54, Ashtabula, in com.  
 Wade, B. F., prop., 1,256 t., in com., '68, passed out.  
 Wade, J. H., s. prop., 1,863 g. t., b. '90, Cleveland, in com.  
 Wade, J., schr., 273 t., b. '73, foundered Long Point, '83, 7 lives lost.  
 Wade, Minnie, Can. prop., 9 g. t., b. '71, Penetanguishene, in com.  
 Wadena, schr., 1,076 g. t., b. '87, Cleveland, chartered ocean service, '98.  
 Wadsworth, Ava, tug, 23 g. t., b. '71, Buffalo, passed out, '95.  
 Wadsworth, C. F., tug, 11 t., b. '70.  
 Wagner, Matt, sty., 53 g. t., b. '88, Buffalo, in com.  
 Wagstaff, David, schr., 310 g. t., b. '63, Vermilion, O., lost L. Mich., '90.  
 Wahnipitae, schr., 1,431 g. t., b. '86, West Bay City, wrecked Cleveland, '90.  
 Waite, A. P., Can. scow, 144 g. t., b. '64, Dunville, in com.  
 Waite, Chief Just ce, stmr., 571 g. t., b. '74, Trenton, Mich., in com.  
 Wake Up, schr., in com., '66, passed out.  
 Walaska, schr., 71 g. t., b. '66, Sheboygan, in com.  
 Walbridge, Belle, schr., 257 t., in com., '66, wrecked Sheboygan, '86.  
 Walbridge, H. S., schr., 215 g. t., b. '62, Milan, wrecked Long Point, '96.  
 Walbridge, Sarah C., brig, b. Conneaut, wrecked L. Erie, '66.  
 Walcot, H. T., Can. schr., 163 g. t., b. '80, Ottawa, in com.  
 Waldo, L. C., prop., 4,244 g. t., b. '96, West Bay City, in com.  
 Wales, Can. schr., 152 g. t., b. '81, Kingston, in com.  
 Wales, Can. tug, 311 n. t., b. '81, Sarnia, in com.  
 Walhalla, schr., 114 g. t., b. '67, Depere, in com.  
 Waliskie, schr., b. '66, passed out.  
 Walker, Chas., schr., 164 t., b. Chicago, '47, passed out.  
 Walker, C. H., schr., foundered L. Hur., '76.  
 Walker, G. H., schr., total wreck L. Erie, '53.  
 Walker, Hiram, schr., 99 g. t., b. '86, Champlain, in com.  
 Walker, Ida, schr., 217 t., wrecked Brighton, '86.  
 Walker, James A., tug, in com., '85.  
 Walker, James A., Can. prop., 170 n. t., b. '87, Kingston, sunk L. Ont., '98.  
 Walker, O. J., schr., 66 g. t., b. '62, Burlington, Vt., passed out, '95.  
 Walker, P. H., stmr., foundered L. Erie, '87.  
 Walk-in-the-Water, first stmr. on L. Erie, 340 t., b. '18, Scajaquada creek, lost L. Erie, '21.  
 Wall, Charles, schr., 629 g. t., b. '66, Cleveland, chartered ocean service, '98.  
 Wallace, Albert, prop., 179 g. t., b. '91, Bay City, in com.  
 Wallace, C. B., stmr., 98 g. t., b. '80, Port Clinton, formerly the J. V. Lutts, in com.  
 Wallace, David, schr., 1,088 g. t., b. '84, Cleveland, chartered ocean service, '98.  
 Wallace, J. S., schr., sunk Holland, Mich., '69.  
 Wallace, Lewis, tug, 41 g. t., b. '65, Grand Haven, burned Onkama, '93.



- Wallace, Robert, prop., 1,189 g. t., b. '82, Cleveland, in com.
- Wallace, W. J., schr., 12 g. t., b. '78, Whitefish, Mich., in com.
- Wallace, William, schr., 40 t., b. Goderich, passed out.
- Waller, i. sty., 56 g. t., b. '87, Buffalo, in com.
- Wallula, prop., 1,924 g. t., b. '82, Cleveland, in com.
- Walrus, schr., lost Gray's reef, '68.
- Walsh, Lizzie, sty., 37 g. t., b. '82, Grand Haven, in com.
- Walter, schr., 18 g. t., b. '93, Ontonagon, in com.
- Walter D., prop., 136 g. t., b. '91, Toledo, in com.
- Walter J., sty., 9 g. t., b. '96, Tonawanda, in com.
- Walter, Val., sty., 18 g. t., b. '90, Buffalo, passed out, '94.
- Walters, J., Can. schr., 176 g. t., b. '74, Picton, in com.
- Walters, P. H., prop., sunk with 8 lives L. Erie, '87.
- Walton, A., 372 t., b. '69, passed out.
- Walton, Andrew, tug, 32 g. t., b. '91, in com.
- Walton, B., tug, 32 g. t., b. '91, Duluth, in com., formerly Cora B.
- Walton, N. C., schr., 104 t., b. Chicago, '46.
- Wand, George H., schr., 358 g. t., b. '66, Buffalo, in com.
- Wanda, sly., 5 g. t., b. '83, in com.
- Wanda, sty., 20 g. t., b. '92, Detroit, in com.
- Wanderer, schr., sunk Port Stanley, '65.
- Wanderer, schr., 65 g. t., b. '60, Essex, N. Y., in com.
- Wanderer, Can. schr., 122 n. t., b. '66, Oakville, in com.
- Wanderer, slp., 11 g. t., b. '78, Erie, foundered L. Erie, '92.
- Wanderer, schr., 14 g. t., b. '90, Chicago, in com.
- Waneka, sty., 22 g. t., formerly Laura, b., '89, West Bay City, in com.
- Wanette, schr., 100 g. t., b. '71, Sodus, passed out, '97.
- Wanzer, Allie, sty., 8 g. t., b. '75, Houghton, passed out, '91.
- Wapiano, Can. sty., 5 g. t., b. '93, Kingston, in com.
- Wapiti, s. sty., 84 g. t., b. '95, West Bay City, in com., formerly Straightway.
- War Eagle, schr., wrecked Ashtabula, '76.
- Ward, Artie, tug, 8 g. t., b. '86, St. Joseph, Mich., passed out, '97.
- Ward, A. B., tug, 30 g. t., b. '66, Chicago, in com.
- Ward, E. B., schr., capsized L. Mich., '70.
- Ward, Eber, prop., 1,343 g. t., b. '88, West Bay City, in com.
- Ward, Eliza, schr., 65 t., b. before '41, capsized '45, L. Erie.
- Ward, John, schr., wrecked Buffalo, '51.
- Ward, Joseph, schr., 237 t., passed out.
- Ward, J. P., stmr., 160 t., b. Detroit, '57, burned Bay City, '65, bottom rebuilt and made vessel.
- Ward, J. W., tug, 40 g. t., b. '91, Benton Harbor, in com.
- Ward, Mary, Can. stmr., stranded Thames r., '72.
- Ward, Milton D., stmr., 544 g. t., b. '70, Marine City, passed out, '97.
- Ward, Sam, stmr., 450 t., b. Newport, '47, made bge.
- Ward, Susan, stmr., 359 t., b. Detroit, '62, made bge., '70, wrecked Oscoda, '85.
- Ware, Liberty H., sty., 44 g. t., b. '94, Cleveland, passed out, '96.
- Warrington, G. H., schr., 559 g. t., b. '72, Vermilion, O., in com.
- Warner, G. W., schr., in com. '89.
- Warner, John F., schr., 200 g. t., b. '55, Cleveland, wrecked near Alpena, '90.
- Warner, M. R., schr., 699 g. t., b. '73, Toledo, wrecked L. Sup., '93.
- Warney, John F., schr., 341 t., damaged, '69.
- Warren, schr., 65 t., b. before '45, passed out.
- Warren, Gen., schr., b. about '34, ran from L. Erie to Sault.
- Warren, H. J., tug, 34 g. t., b. '91, Buffalo, in com.
- Warren, Minnie, 13 g. t., b. '69, Buffalo, in com.
- Warrington, lighthouse tender.
- Warrington, H., prop., 343 t., damaged '69.
- Washburn, tug, 31 g. t., b. '85, West Bay City, passed out, '97.
- Washburn, prop., 2,234 g. t., now the James B. Nielson.
- Washington, schr., b. Erie 1797, carried on wheels to L. Ont., 1798, and sailed as English v. under name of Lady Washington; lost in gale near Oswego, 1803.
- Washington, stmr., 609 t., b. Huron, '33, lost on her third trip, Long Pt.
- Washington, stmr., 380 t., b. Ashtabula, '38, burned on her first trip off Silver Creek, 60 lives lost.
- Washington, prop., left lakes '69, for ocean, where she had formerly plied.
- Washington, Geo., schr., 99 t., b. before '53, passed out.
- Washington, sty., 11 g. t., b. '93, Chicago, passed out, '97.
- Wasp, schr., 18 t., b. Huron, '17.
- Wasp, schy., 41 g. t., b. '82, Chicago, in com.
- Watchful, schr., 144 t., b. Clayton, '54, passed out.
- Watchman, schr., wrecked L. Erie, '58.
- Water Lily, Can. prop., 102 n. t., b. '91, Picton, in com.
- Water Lilly, sty., 11 g. t., b. '64, Newburgh, in com.
- Water Witch, prop., 458 t., b. Newport, '62, foundered L. Hur., '63, 28 lives lost.
- Water Witch, bark, 365 t., sunk L. Ont., '69.
- Water Witch, Can. prop., 9 g. t., b. '80, Lindsay, in com.
- Waterloo, stmr., 98 t., b. Black Rock, '40, a portion of her engine had served time in the Walk-in-the-Water and in the Superior, wrecked, '46.
- Waters, A. C., tug, burned L. Mich., '86.
- Watertown, Can. stmr., now the Can. stmr. Union.
- Watertown, stmr., 222 t., burned L. Ont., '65.
- Watertown, schr., b. Chaumont, '74.
- Watkins, Edward, sty., 20 g. t., formerly Gen. A. A. Humphreys, b. '73, Milwaukee, in com.
- Watkins, Grace, schr., 18 g. t., b. '87, Sand Beach, in com.
- Watkins, John, Can. schr., 90 g. t., b. '19, York.
- Watson, Alex., prop., burned St. Clair r. '71.
- Watson, A. B., tug, 28 g. t., b. '80, Muskegon, in com.
- Watson, Flora, schr., sunk by col., L. Erie, '62.
- Watson, George, schr., 64 t., b. '41, Black River, O., sunk L. Mich., '52.
- Watson, Harvey, sty., 37 g. t., b. '93, Saugatuck, in com.
- Watson, Jim, stmr., 107 g. t., b. '58, Belle Vernon, Penn., passed out, '91.
- Watson, Mary, Can. schr., 90 t., b. Goderich, lost near Goderich, '58.
- Watson, Samuel L., schr., 606 g. t., b. '74, Detroit, chartered ocean, '98.
- Watson, S. V. R., schr., 515 g. t., b. '62, Cleveland, chartered ocean, '98.
- Watt, Annie, tug, sunk by col. near Barrier island, '90.
- Watt, James, prop., 4,090 g. t., b. '96, Cleveland, in com.
- Watts, R., Can. prop., 27 g. t., b. '87, Hamilton, in com.
- Waubashene, Can. bge., 478 g. t., b. '72, Chatham, in com.
- Waubashene, Can. tug, 100 n. t., b. '82, St. Catharines, in com.
- Wau Bun, tug, 63 g. t., b. '87, Manitowoc, in com.

- Waubun, sty., 53 g. t., b. '74, Chicago, in com.  
 Waubuno, Can. stmr., 180 t., b. Port Robinson, '65, founded Georgian Bay, '79, 30 lives lost.  
 Waukesha, schr., 310 g. t., formerly Nabob, b. '62, Manitowoc, founded L. Mich., '96, 6 lives lost.  
 Waukon, prop., 173 g. t., b. '83, Saugatuck, in com.  
 Waurecan, bge., ashore Austin reef, '75.  
 Wave, schr., lost L. Mich., '45, 13 lives lost.  
 Wave, schr., 100 t., b. Detroit, '49, lost L. Mich., '49.  
 Wave, stmr., b. Detroit, wrecked L. Erie, '51.  
 Wave, schr., lost L. Hur., '58, 2 lives lost.  
 Wave, schr., 180 t., lost L. Ont., '67.  
 Wave, stmr., 169 t., b. Algonac, '64, passed out.  
 Wave Crest, schy., 63 g. t., formerly Juniata, b. '64, Philadelphia, in com.  
 Wave Crest, Can. schr., 245 n. t., b. '67, Brockville, in com.  
 Waverly, schr., 262 g. t., b. '53, Sacket's Harbor, passed out, '91.  
 Waverly, prop., 1,104 g. t., b. '74, Buffalo, in com.  
 Waytree, schr., formerly R. H. Harmon, lost '68, L. Hur.  
 Wawa, sty., 17 g. t., b. '91, Fort Howard, in com.  
 Wawanosh, Can. schr., 400 n. t., b. '73, Sarnia, in com.  
 Wawatam, s. prop., 1,856 g. t., b. '90, Cleveland, in com.  
 Wayland, J. L., tug, 14 t., b. '85.  
 Wayne, schr., 965 g. t., b. '82, St. Clair, in com.  
 Wayne, schr., ashore Au Sauble, '75.  
 Wayne, Anthony, stmr., 390 t., b. Perrysburg, '37, boiler exploded, '50, many lives lost, broken up, '51.  
 Wayne, Gen., originally Caledonia, brig, 86 t., b. Amherstburg, '07, by Can. Gov.  
 Wayward, scy., 40 g. t., b. '90, in com.  
 Wayward, sty., 42 g. t., formerly Winifred, b. '82, Brooklyn, in com.  
 Weatherly, J. C., fire boat, in com., '87.  
 Weaver, Gen., schr., 27 g. t., b. '81, Au Gres, Mich., in com.  
 Weaver, Jennie, schr., 88 g. t., b. '82, South Haven, in com.  
 Weaver, Nettie, schr., 400 t., b. Milan, '65, wrecked near Kincardine, '77.  
 Weaver, Winnie, schr., 17 g. t., b. '89, Charlevoix, in com.  
 Weazel, small slp., b. L. Erie, 1796 or earlier.  
 Webb, B. L., prop., 843 t., b. '56, burned same year in Waika bay.  
 Webb, H. J., schr., 431 g. t., b. '69, Vermilion, in com.  
 Webber, John, schr., b. '56, Black River, O.  
 Webster, prop., 10 g. t., b. '81, Syracuse, passed out, '93.  
 Webster, Daniel, stmr., 358 t., b. Black Rock, '33, burned, '35, Buffalo, rebuilt.  
 Webster, D., schr., b. Clayton, L. Ont., before '52.  
 Wee, John, schr., 199 g. t., b. '81, Milwaukee, passed out, '97.  
 Weed, Emily P., s. prop., 2,362 g. t., b. '90, Bay City, now the Sevona.  
 Weedon, John, schr., 269 t., lost L. Ont., '69.  
 Weeks, G. S., schr., seized by Can. authorities, '39.  
 Weeks, G. W., schr., lost L. Mich., '55.  
 Wehrle, A., Jr., stmr., 421 g. t., b. '89, Sandusky, in com.  
 Weidman, R. H., tug, 34 g. t., b. '82, Buffalo, in com.  
 Weitzel, Gen., tug, 34 g. t., b. '81, Buffalo, in com.  
 Welch, T. H., sty., in com., '82.  
 Welcome, tug, 56 g. t., b. '76, Milwaukee, in com.  
 Welcome, stcb., 93 g. t., b. '77, Chicago, passed out, '90.  
 Welcome, prop., 306 g. t., b. '78, Fort Howard, in com.  
 Welcome, stmr., 98 g. t., b. '78, Fort Howard, passed out, '94.  
 Welcome, Can. tug, 36 n. t., b. '86, Collingwood, in com.  
 Welcome, tug, 10 g. t., b. '88, Sheboygan, in com.  
 Welcome, tug, 58 g. t., b. '90, Buffalo, in com.  
 Welcome, tug, 77 g. t., b. '90, Sheboygan, in com.  
 Welcome, prop., 212 g. t., b. '94, St. Clair, in com.  
 Welland, schr., b. before '39, sunk St. Lawrence r., '51.  
 Welland, Can. stmr., 300 t., b. St. Catharines, '42, burned.  
 Welland, schr., 220 t., b. Oswego, '45, lost L. Mich., '57, 8 lives lost.  
 Welland, Can. scow, 142 g. t., b. '76, Merrilton, in com.  
 Welland, Can. stmr., 300 t., b. St. Catharines, '53, burned Port Dalhousie, '56.  
 Wellandport, Can. scow, 212 g. t., b. '67, Welland, in com.  
 Wellington, brig, 130 t., sailed in '17.  
 Wellington, schr., 298 t., lost Skillagalee, '67.  
 Wellington, Can. prop., passed out.  
 Wells, C. J., bark, b. '66, passed out.  
 Wells, C. W., tug, 38 t., b. Marine City, '83, burned Amherstburg, '97.  
 Wells, D. A., schr., 310 t., b. '69, founded L. Mich., '80.  
 Wells, D. A., schr., 56 g. t., b. '74, Sack Bay, in com.  
 Wells, F. L., schr., wrecked off Port Bruce, '68.  
 Wells, Fred L., schr., 80 g. t., b. '75, New Jerusalem, O., in com.  
 Wells, Hattie, schr., 376 g. t., b. '67, Port Huron, in com.  
 Welshman, Can. prop., 114 n. t., b. '73, Kingston, in com.  
 Wemple, passed out.  
 Wend-the-Wave, schr., 220 t., b. '67, Ashtabula.  
 Wenona, slp., 30 t., b. Milwaukee before '36.  
 Wenona, schr., 496 g. t., b. '57, Cleveland, wrecked Portage, '98.  
 Wenonah, schr., 20 t., b. Milwaukee, '41.  
 Wenonah, Can. prop., 161 g. t., b. '86, Burk's Falls, in com.  
 Wenoway, Can. prop., 99 g. t., b. '93, Quinze Bay, in com.  
 Wente, Robert C., prop., 335 g. t., b. '88, Gibraltar, in com.  
 Wesley, bge., founded near Erie, '80.  
 Wesley, Geo. W., schr., 280 g. t., b. '67, Saginaw, in com.  
 Wesley, John, Can. schr., 40 g. t., b. '69, Picton, in com.  
 Wesley, John, schr., 302 g. t., b. '72, Toledo, in com.  
 Wesley, John, Can. prop., 42 g. t., b. '84, Port Hope, in com.  
 West, Charles, prop., 122 g. t., b. '83, Saugatuck, now Waukon.  
 West, D. C., Can. prop., g. t., b. '74, Clayton, in com.  
 West, George R., prop., 22 g. t., b. '85, Milwaukee, in com.  
 West, N. C., schr., 145 g. t., b. '67, Fremont, O., sunk by col., St. Clair r., '98.  
 West Wind, schr., in com., '56, passed out.  
 Westchester, schr., 207 t., b. Huron, '46, stranded Plum island, '85.  
 Westcott, George W., schr., 122 g. t., b. '63, Sacket's Harbor, in com.  
 Westcott, J. W., tug, 18 g. t., b. '80, Buffalo, in com.  
 Westcott, J. W., prop., 522 g. t., b. '83, Marine City, in com.  
 Westernman, Geo., Sr., sty., 17 g. t., b. '90 Olcott, passed out, '97.

- Westerman, Geo., Jr., sty., 10 g. t., '96, LaSalle, N. Y., in com.
- Western, schr., b. Clayton, before '46.
- Western, Can. stmr., burned Detroit, '42.
- Western Metropolis, stmr., 1,860 t., Buffalo, '56, made a bark and wrecked L. Mich., '64.
- Western Miller, Can. prop., passed out.
- Western Reserve, s. prop., 2,392 g. t., b. '90, Cleveland, foundered L. Sup., '92, entire crew and 6 passengers, including Capt. Minch, the owner, lost except one survivor.
- Western Star, schr., wrecked near Goderich, '54.
- Western Trader, schr., 53 t., capsized off Cleveland, '37, in com., '39.
- Western World, stmr., 2,002 t., b. Buffalo, '54, dismantled.
- Westford, prop., 302 g. t., b. '69, Trenton, Mich., in com.
- Westminster, prop., 34 g. t., b. '80, Chaumont, N. Y., passed out, '95.
- Westmoreland, prop., 800 t., sunk '54, near Manitou island, 17 lives lost, wreck discovered, '72.
- Weston, Alex., Can. prop., 150 t., b. Wallaceburg, '70, burned Lambton, Ont., '71.
- Weston, A., prop., 511 g. t., b. '82, Mt. Clemens, in com.
- Weston, I. M., prop., 95 g. t., b. '83, Grand Haven, in com.
- Westover, Luther, Can. stmr., 127 g. t., b. '77, Bay City, in com.
- Westover, i. prop., 455 g. t., b. '73, Wilmington, Del., in com.
- Westport, Can. stbge., 196 g. t., b. '62, Bedford Mills, in com.
- Westside, scow, wrecked L. Erie, '84.
- West Side, schr., 324 g. t., b. '70, Oswego, in com.
- Wetmore, W. L., prop., 819 g. t., b. '71, Cleveland, in com.
- Wetzel, tug, 25 t., b. '70, boiler exploded, lost with all hands, L. Mich., '82.
- Whale, stcb., 88 g. t., b. '64, Portsmouth, O., passed out, '91.
- Whaling, W. W. J., schr., in com. '65, stranded Grand Haven, '73.
- Wheat Bin, Can. bge., 324 n. t., b. '70, in com.
- Wheaton, H., schr., 200 t., b. Oswego, '45, sunk Long Point, '55.
- Wheeler, tug, 32 t., burned Oswego, '85.
- Wheeler, Frank, schr., 775 t., sunk L. Sup., '85.
- Wheeler, Frank W., prop., 1,687 g. t., b. '87, West Bay City, lost '93, L. Mich.
- Wheeler, Fred D., tug, 32 g. t., b. '65, Oswego, passed out, '91.
- Wheeler, Fred D., tug, 32 g. t., b. '77, Oswego, passed out, '95.
- Wheeler, Irma L., tug, 51 g. t., b. '77, Manitowoc, in com.
- Wheeler, J. C., schr., lost L. Ont., '64.
- Where Now, Can. sty., 48 g. t., b. '89, Kingston, in com.
- Whig, schr., 97 t., passed out.
- Whim Wham, stmr., 133 g. t., b. '98, in com.
- Whip, schr., 40 t., in com., '51, wrecked St. Joseph, '65.
- Whip-Poor-Will, Can. schr., 15 g. t., b. '67, Welland, in com.
- Whirlwind, schr., b. Racine.
- Whisper, sty., 35 g. t., b. '82, Harlem, N. Y., in com.
- Whistle Wing, Can. prop., 88 g. t., b. '81, Peterboro, in com.
- Whistler, schr., 19 g. t., b. '92, Detroit, in com.
- Whitaker, Byron, prop., 1,404 g. t., b. '90, Mt. Clemens, in com.
- Whitbeck, Henry, schr., 498 g. t., b. '80, Manitowoc, passed out, '95.
- Whitby, prop., sunk by col. about '62.
- White, stmr., 80 t., b. Cleveland, '68, passed out.
- White, Charles N., schr., 115 g. t., b. '88, in com.
- White, Clara, schr., burned Grenadier island, '89.
- White Cloud, schr., 243 g. t., b. '53, Clayton, in com.
- White Cloud, Can. scow, 29 g. t., b. '64, Sandwich, in com.
- White, D. L., Can. prop., 62 n. t., b. '96, Midland, in com.
- White, Eliza, Can. schr., 162 n. t., b. '67, Port Burwell, in com.
- White, Elizabeth, tug, passed out.
- White, Ellen, scow schr., burned L. Frie, '70.
- White, Fannie, tug, in com. '69.
- White Foam, schr., 18 g. t., b. '80, North Island, Mich., in com.
- White, Jennie, schr., 246 g. t., b. '74, Henderson, N. Y., passed out, '94.
- White, J. K., stmr., 50 t., b. Cleveland, '68.
- White, John B., tug, 39 t., passed out.
- White, Kate, sty., 24 g. t., b. '85, Erie, in com.
- White, Kirk, schr., in com. '52, wrecked Saginaw bay, '69.
- White Oak, Can. schr., 260 n. t., b. '67, Oakville, in com.
- White Oak, Can. schr., b. Kingston, '80.
- White, Perry, schr., passed out.
- White Pigeon, schr., b. '32, Black River, O., lost L. Mich., '59.
- White Squall, schr., b. Clayton before '52, sunk by col., Saginaw bay, '72, 7 lives lost.
- White Star, schr., 131 t., b. '74, wrecked L. Erie, '87.
- White Star, prop., 378 g. t., formerly Maria J. Scott, b. '74, Oswego, in com.
- White Swan, schr., 10 g. t., b. '94, Sault Ste. Marie, in com.
- White Wings, slp., 17 g. t., b. '82, Detroit, in com.
- White Wings, Can. slp., 22 g. t., b. '86, Trenton, in com.
- White & Friant, prop., 459 g. t., b. '81, Grand Haven, made schooner '97, in com.
- Witherbee, S. H., schr., 69 g. t., b. '64, Essex, in com.
- Whiting, Lula, schr., 23 g. t., b. '83, Sand Beach, wrecked, '94.
- Whitman, H. L., schr., 295 t., wrecked Racine, '69.
- Whitney, Daniel, schr., wrecked L. Mich., '44, all hands lost.
- Whitney, D. C., prop., 1,090 g. t., b. '82, St. Clair, in com.
- Whitney, Geo. F., schr., foundered near Sugar island, with all hands, '71.
- Whitney, Geo. J., schr., 300 t., b. Rochester, '67.
- Whitney, Grace, schr., 289 g. t., b. '66, Gibraltar, in com.
- Whitney, J., stmr., 238 t., b. Saginaw, '53, made bge., '67.
- Whitney, O. R., stcb., 136 g. t., b. '86, Lockport, in com.
- Whitney, T., 238 t., b. Bangora, Mich., '53.
- Whittlesea, scow, abandoned, Cleveland, '73.
- Whittlesey, Elisha, schr., sunk L. Erie, '32, 10 lives lost.
- Whittlesey, Elizabeth, schr., 50 t., b. Ashtabula, passed out.
- Whitworth, Sir Joseph, bge., 1,192 g. t., b. '89, Duluth, in com.
- Warton, Belle, Can. prop., 88 g. t., b. '79, Buffalo, in com.
- Wide Awake, schr., wrecked L. Ont., '57.
- Wide-a-Wake, Can. slp., 26 g. t., b. '87, Kingston, in com.



- Widgeon, sty., b. Clayton, N. Y.  
Widgeon, schy., 22 g. t., b. '66, Algonac, in com.  
Widow's Son, schr., 41 t., passed out.  
Wilber, sty., 13 g. t., b. '91, Chicago, in com.  
Wilbur, E. P., s. prop., 2,633 g. t., b. '88, Cleveland, in com.  
Wilbur, Katherine T., prop., 55 g. t., b. '95, Buffalo, in com.  
Wilbur, John B., schr., 412 g. t., b. '67, Huron, in com.  
Wilcox, A., schr., 130 t., sunk Cleveland, '45.  
Wilcox, Aaron, tug, 14 g. t., b. '71, Buffalo, passed out, '92.  
Wilcox, Asa, schr., b. L. Ont., '41, wrecked L. Mich., '52, 3 lives lost.  
Wilcox, Frankie, schr., 229 t., b. Fairport, '65.  
Wilcox, M., schr., 70 g. t., b. '67, Harrison, Mich., passed out, '95.  
Wilcox, M. I., schr., 377 g. t., b. '66, Toledo, in com.  
Wilcox, M. I., tug, 13 g. t., b. '80, Buffalo, in com.  
Wilcox, M. I., slp., 28 g. t., b. '94, Chaumont, N. Y., in com.  
Wilcox, O., tug, 193 g. t., b. '69, Detroit, sunk L. Hur., '93.  
Wild Rover, schr., 290 t., total loss, '69.  
Wild Rover, schr., 60 g. t., b. '71, Cheneaux Island, Mich., passed out, '94.  
Wilde, Oscar, slpy., 23 g. t., b. '82, Port Huron, passed out, '97.  
Wilds, Alice E., prop., 292 g. t., b. '83, Detroit, sunk by col. L. Mich., '92.  
Wiley, May, Can. schr., 61 g. t., b. '73, Bronte, in com.  
Wilhelm, Kaiser, prop., 28 g. t., b. '74, Grand Haven, passed out, '91.  
Wilhelm, S. S., prop., 683 g. t., b. '89, West Bay City, in com.  
Wilhouse, W., schr., 83 t., b. '67, Fairport.  
Wilkes, C. H., schr., passed out.  
Wilkinson, schr., 80 t., b. by U. S. Gov., Detroit, 1797, renamed Amelia, one of Perry's squadron.  
Willard, Julia, schr., 214 g. t., b. '65, Ashtabula, sunk L. Erie, '95.  
Willard, W. H., schr., b. '56, Black River, O., wrecked St. Joseph, 80.  
Willet, schr., b. Clayton, L. Ont., before '52.  
Willet, Tom, schr., in com., '33.  
William IV, Can. stmr., 450 t., b. Gananoque, '32.  
William, schr., 32 t., b. about '18, wrecked Cleveland, '25.  
William, schr., 188 t., b. '47.  
William, schr., 35 t., b. Ohio City, '47.  
William, scow, wrecked Fairport, '59.  
William, Can. bge., 360 n. t., b. '75, Quebec, in com.  
William D., tug, 51 g. t., b. '92, Ashtabula, in com.  
Williams, bge., sunk L. Ont., '85.  
Williams, A., stmr., 274 g. t., b. '70, Burlington, Vt., dismantled, '95.  
Williams, A. B., schr., foundered L. Hur., '64.  
Williams, Alonzo, bge., 55 g. t., b. '87, in com.  
Williams, Caroline, brig, damaged by fire, '71.  
Williams, Caroline, tug, burned Big Point Sable, '84.  
Williams, C. G., scow, sunk Muskegon.  
Williams, C. P., brig, wrecked near Port Austin, '86.  
Williams, E. C., schr., 156 t., wrecked near Erie, '61.  
Williams, Eliza, tug, 37 g. t., b. '72, Buffalo, in com.  
Williams, Ellen, schr., 321 g. t., b. '55, Cleveland, in com.  
Williams, E. R., schr., 293 g. t., b. '73, Toledo, sunk Green bay, '95.  
Williams, Farrand H., schr., 95 g. t., b. '82, Manitowoc, in com.  
Williams, George F., 1,888 g. t., b. '89, West Bay City, in com.  
Williams, Grace, prop., 46 g. t., b. '85, Manitowoc, sunk L. Mich., '96.  
Williams, G. T., schr., 167 t., lost L. Ont., '56.  
Williams, H. G., scow, foundered Cleveland, '71, 2 lives lost, abandoned Cedar Point, '73.  
Williams, H. W., prop., 249 g. t., b. '88, South Haven, in com.  
Williams, J. T., schr., lost L. Ont., '56.  
Williams, J. L., tug, 51 g. t., b. '83, Buffalo, in com.  
Williams, John, Can. tug, 15 n. t., b. '87, Fessenden, in com.  
Williams, Kate, tug, 164 g. t., b. '62, Cleveland, in com.  
Williams, M., schr., 397 t., b. Wallaceburg, '62.  
Williams, Oliver C., tug, 57 g. t., b. '79, Saugatuck, passed out, '93.  
Williamson, Jas., Can. schr., 155 g. t., b. '82, Hull, in com.  
Willie, Can. scow, 37 g. t., b. '71, River Reescum, in com.  
Willie, bge., 50 g. t., b. '94, in com.  
Willing Maid, Can. schr., b. York, '18.  
Willis, schr., sunk by col., L. Erie, '72.  
Willis, Robert, schr., b. Buffalo, '52.  
Wilson, Alfred, Can. prop., 33 g. t., b. '79, Port Frank, in com.  
Wilson, Annabell, schr., 490 g. t., b. '87, Mt. Clemens, Mich., in com.  
Wilson, Belle, Can. prop., 120 t., b. '81, lost '88.  
Wilson, D. M., prop., 757 g. t., b. '73, St. Clair, foundered L. Hur., '94.  
Wilson, Eliza, schr., wrecked near Toronto, '63.  
Wilson, Gen. John M., s. tug, 42 g. t., b. Toledo, '98, in com.  
Wilson, Geo., schr., wrecked L. Ont., '64.  
Wilson, G. W., schr., sunk by col.  
Wilson, H. B., tug, 33 g. t., b. '77, Huron, in com.  
Wilson, John, Can. schr., 158 g. t., b. '81, Hull, in com.  
Wilson, Kate, tug, 15 g. t., b. '97, Buffalo, in com.  
Wilson, Lena M., schr., 86 g. t., b. '96, Ludington, in com.  
Wilson, Mabel, schr., 1,224 g. t., b. '86, West Bay City, in com.  
Wilson, S. P., schr., 141 t., ashore Grand Haven, '85.  
Wilson, Thomas, tug, 71 g. t., b. '88, Buffalo, in com.  
Wilson, Thomas, prop., 1,713 g. t., b. '92, West Superior, in com.  
Wilson, Thomas C., schr., 30 g. t., b. '68, Black River, in com.  
Wilson, W., Can. tug, 15 n. t., b. '93, Fort Erie, in com.  
Wilson, William, Can. schr., 69 g. t., b. '65, Rondeau, in com.  
Wiman, schr., lost Point aux Barques, '55.  
Wiman, Erastus, Can. prop., 54 g. t., b. '90, Huntsville, in com.  
Windham, schr., 270 t., b. Ashtabula, '43.  
Windsor, schr., 270 t., b. Buffalo, '47.  
Windsor, schr., 237 t., b. '56, Detroit, wrecked, '93.  
Windsor, stmr., 223 t., b. '56, burned Detroit, '66, 30 lives lost.  
Windsor, scow, sunk Benton Harbor, '70.  
Windsor, prop., 194 g. t., b. '94, Summerville, N. Y., in com.  
Windsor, E., Can. prop., 89 n. t., b. '71, Sombra, in com.  
Wing and Wing, schr., 228 t., wrecked Michigan City, '54.  
Wing, Winnie, schr., 200 g. t., b. '67, Fort Howard, in com.  
Wings, schr., 9 g. t., b. '97, Muskegon, in com.  
Wings of the Morning, schr., 340 t., b. '54, Black River, O., passed out.

- Wings of the Wind, schr., b. Buffalo, '55, sunk by col., L. Mich., '66.
- Winifred, sty., 42 g. t., b. '82, Brooklyn, N. Y., later the Wayward.
- Winlock, Nellie, 32 t., b. '69.
- Winnie, Bertha H., schr., 26 t., b. Touissant, O., '71, capsized L. Erie, '96.
- Winnebago Chief, stmr., b. Green Bay, '29.
- Winniething, schr., 280 t., b. Green Bay, '67.
- Winnipeg, Can. bge., 837 n. t., b. '93, Kingston, in com.
- Winona, schr., 496 g. t., b. '56, Cleveland, passed out, '91.
- Winona, Can. schr., 149 g. t., b. '90, Greenville, in com.
- Winona, Can. prop., 12 g. t., b. '93, Montebello, in com.
- Winslow, prop., 1,050 g. t., b. '63, Cleveland, burned Duluth, '91.
- Winslow, tug, 290 g. t., b. '62, Cleveland, in com.
- Winslow, schr., lost '94, L. Mich.
- Winslow, Annie, brig, 205 t., b. Cleveland, '42, wrecked Duck island, '52.
- Winslow, H. C., schr., 252 g. t., b. '53, Black River, in com.
- Winslow, Kate, 736 g. t., b. '72, East Saginaw, foundered, '97.
- Winslow R., brig, 127 t., b. Avon, '41.
- Winslow, R. G., bark, 499 t., wrecked L. Hur., '67.
- Winslow, Richard, schr., 885 g. t., b. '71, Detroit, sunk in Straits, '98.
- Winter, Jessie, schr., 56 g. t., b. '76, Sheboygan, in com.
- Wiralite, bark, formerly Vanguard, arrived Detroit from Liverpool, '66.
- Wisconsin, schr., first v. b. Green Bay, '34, wrecked Death's Door, '47.
- Wisconsin, stmr., 700 t., b. Conneaut, '37, sunk L. Erie by col., '52.
- Wisconsin, stmr., 352 t., b. '52, burned St. Lawrence r., '67, 23 lives lost.
- Wisconsin, tug, 56 g. t., b. '85, Green Bay, in com.
- Wisconsin, i. prop., 1,181 g. t., b. '81, Wyandotte, in com.
- Wiskonsan, stmr., passed out.
- Wissahickon, prop., 1,620 g. t., b. '76, Buffalo, in com.
- Witch, tug, sunk Saginaw, '69.
- Witch of the Waves, Can. prop., 27 g. t., b. '75, Kemptville, in com.
- Witch of the West, tug, 23 g. t., b. '56, Petty's Island, N. J., in com.
- Witherbee, J. G., schr., 65 g. t., b. '63, Essex, N. Y., in com.
- Witherbee, J. G., prop., 114 g. t., b. '72, Philadelphia, in com.
- Witter, Wm. E., stcb., 133 g. t., b. '90, Ithaca, N. Y., passed out, '93.
- Wizard, sly., 6 g. t., b. '96, in com.
- Wocoken, prop., 1,400 g. t., b. '80, Cleveland, foundered L. Erie, '93, 14 lives lost.
- Wolcott, E. G., schr., ashore Sheboygan, '47.
- Wolcott, J., stmr., 80 t., b. Maumee about '44, burned '51.
- Wolf, schr., 29 t., b. Danbury, O., '17.
- Wolf, Lottie, schr., 334 t., b. Green Bay, '66, wrecked, '91.
- Wolf, William H., prop., 2,265 g. t., b. '87, Milwaukee, in com.
- Wolf, W. H., tug, 42 g. t., b. '81, Milwaukee, in com.
- Wolfe, 637 t., Brit. gunboat on L. Ont., '13, 23 guns, afterwards Montreal.
- Wollin, schr., 48 g. t., b. '54, Milwaukee, wrecked off Sheboygan, '97.
- Wolseley, Gen., stmr., burned Georgian Bay, '86.
- Wolseley, Gen., Can. prop., 123 g. t., b. '84, Oakville, in com.
- Wolverine, schr., 97 t., b. Detroit, '43.
- Wolverine, Can. schr., b. Pt. Dalhousie, '64.
- Wolverine, schr., 195 g. t., b. '71, Grand Haven, in com.
- Wolverine, schr., 141 g. t., b. '67, Saginaw, in com.
- Wonder, schr., 39 g. t., b. '75, Sheboygan, in com.
- Wood Duck, Can. schr., 120 t., b. probably York, '19.
- Woodduck, schr., stranded Oswego, '80.
- Wood, Charles B., schr., 108 g. t., b. '79, Chaumont, N. Y., passed out, '95.
- Wood, Jas., prop., 400 t., b. Dexter, '46, wrecked Ash-tabula, '52.
- Wood, Robt., schr., 152 t., b. Clayton, N. Y., lost off Dunkirk, '54.
- Wood, S. A., schr., 314 g. t., b. '68, Manitowoc, in com.
- Woodbridge, schr., 118 t., b. Huron, '41, passed out.
- Woodbury, W. A., Can. schr., 150 g. t., b. '79, Hull, in com.
- Woodman, schr., stranded, '51.
- Woodruff, Carrie, schr., 127 t., lost L. Mich., '67.
- Woodruff, Jane C., Can. schr., 228 g. t., b. '66, St. Catharines, in com.
- Woodruff, J. C., Can. schr., wrecked Georgian Bay, '86.
- Woodruff, L. S., bark, b. '66, ashore Big Sand Point, '73.
- Woods, Arthur, tug, 37 g. t., b. '88, Buffalo, in com.
- Woods, Frank, prop., 385 g. t., b. '88, Saugatuck, in com.
- Woodward, Nettie, schr., in com., '72.
- Woolsey, schr., b. Sacket's Harbor about '15.
- Woolson, Mary, schr., 708 g. t., b. '88, West Bay City, in com.
- World's Fair of Chicago, bge., 128 g. t., b. '93, in com.
- Worswick, J. R., tug, 11 g. t., b. '78, Lorain, passed out, '95.
- Worth, Gen., schr., b. Euclid, '48, 222 g. t., later the John Raber.
- Worthington, schr., aground, near Chicago, '53.
- Worthington, Geo., schr., sunk near St. Helena, '75.
- Worthington, Geo., bge., sunk by col., Colchester reef, '87.
- Worthington, H. L., prop., 375 g. t., b. '80, Lorain, in com.
- Worthington, Luella, stmr., in com., '81.
- Worts, James G., Can. schr., 309 g. t., b. '74, Mill Point, wrecked, '95.
- Wotan, prop., 886 g. t., b. '93, Marine City, in com.
- Wren, schr., 7 g. t., b. '90, Onekama, Mich., in com.
- Wrenn, George L., schr., 214 g. t., b. '63, Fort Howard, in com.
- Wright, Albert, Can. tug, 50 n. t., b. '75, Port Hope, in com.
- Wright, A. G., schr., 100 t., b. South Haven, '68.
- Wright, Albert J., tug, 240 g. t., b. '81, Buffalo, in com.
- Wright, A. J., stcb., 130 g. t., b. '80, Buffalo, in com.
- Wright, A. P., tug, 29 t., wrecked Manistee, '86.
- Wright, Alfred P., prop., 2,207 g. t., b. '88, Cleveland, in com.
- Wright, A. W., schr., 530 g. t., b. '80, Saginaw, in com.
- Wright, D. B., schr., capsized off South Haven, '75.
- Wright, J. B., schr., wrecked L. Mich., '54.
- Wright, John W., schr., 26 g. t., b. '69, Oshkosh, in com.
- Wright, Luther, schr., 195 t., b. Huron, wrecked Gravelly bay, '54.
- Wright, M. W., tug, 34 g. t., b. '68, Depauville, N. Y., passed out, '93.
- Wright, Silas, schr., b. Cape Vincent, wrecked L. Erie, '60.
- Wright, Tommy, Can. prop., 12 g. t., b. '75, Goderich in com.

- Wrong, Tom, schr., wrecked Port Burwell, '66.  
 Wyandotte, English slp., 47 t., b. Detroit, 1779.  
 Wyandotte, schr., wrecked Buffalo, '56.  
 Wyandotte, schr., 320 g. t., b. '56, Newport, Mich., in com.  
 Wyandotte, s. prop., 320 g. t., b. '92, Wyandotte, in com.  
 Wyland, J. L., tug, 13 g. t., b. '85, Vermillion, in com.  
 Wyman, Chas. E., schr., 234 g. t., b. '82, Grand Haven, in com.  
 Wyman, T., brig, 258 t., b. Oswego, '45.  
 Wyoming, schr., 233 t., b. Ohio City, '47.  
 Wyoming, bge., sunk Port Huron, '76.  
 Wyoming, schr., 289 g. t., b. '70, Port Huron, passed out, '91.  
 Wyoming, prop., 1,952 g. t., b. '87, Buffalo, in com.  
 Wyoming, prop., 350 g. t., b. '70, Detroit, in com.
- X 10. U. 8, schr., 23 g. t., b. '88, South Haven.**
- Yakima, prop., 1,986 g. t., b. '87, Cleveland, in com.  
 Yale, s. prop., 3,453 g. t., b. '95, Cleveland, in com.  
 Yama, stmr., 11 g. t., b. '90, in com.  
 Yankee, schr., on L. Erie, '41.  
 Yankee, schr., lost '93, L. Hur.  
 Yankee, schr., 236 g. t., b. '62, Marine City, Mich., in com.  
 Yankee, schr., 12 g. t., b. '83, Sand Beach, Mich., in com.  
 Yankee Blade, schr., 256 t., b. '55, foundered near Skillagalee, '83.  
 Yates, Florence, tug, 33 g. t., formerly Sam'l H. Barons, b. Buffalo, '75, in com.  
 Yates, H. N., schr., in com., '45, passed out.  
 Yattaw, J. F., 126 g. t., b. '92, Chicago, passed out, '96.  
 York, English v., 80 g. t., b. Toronto, 1792, wrecked off Devil's Nose, 1799.  
 York State, schr., 303 g. t., b. '69, Ashtabula, in com.  
 York State, schr., 288 t., b. '57, stranded Georgian Bay, '86.  
 York State, tug, 23 t., b. '69, passed out.  
 Yosemite, prop., 310 g. t., b. '67, Sandusky, passed out, '92.  
 Yosemite, fire tug, 142 g. t., b. '90, Chicago, in com.  
 Youell, Clara, Can. schr., 269 n. t., b. '72, Port Burwell, in com.  
 Youghiogheny, prop., 115 g. t., b. '89, Ashtabula, in com.
- Young Amaranth, schr., b. '25, Black River, O.  
 Young America, stmr., 89 t., b. Algonac, '62.  
 Young America, schr., 242 g. t., b. '53, Buffalo, in com.  
 Young Annie, prop., 1,007 t., b. '69, burned L. Hur., '90, 9 lives lost.  
 Young, C. L., schr., 382 g. t., b. '72, Marine City, in com.  
 Young, Capt. Levi, Can. schr., 153 g. t., b. '80, Hull, in com.  
 Young, Emma, scow, sunk Algonac, '71, by col.  
 Young Farmer, schr., ashore Long Point, '27.  
 Young, Henry, scow, wrecked L. Erie, '70.  
 Young Leopold, schr., in com., '56.  
 Young Lion, schr., 50 t., b. Black Rock, '27, sunk near Erie, '36.  
 Young Lyon, burned '74, L. Hur.  
 Young, P. E., Can. scow, 76 n. t., b. '64, Normandale, in com.  
 Young Rover, schr., 8 t., b. Detroit, '43.  
 Young Tiger, schr., afloat, '26.  
 Young, William, schr., 333 g. t., b. '63, Madison Docks, O., passed out, '91.  
 Young, Wm. A., schr., 434 g. t., b. '33, Marine City, in com.  
 Yukon, schr., 1,602 g. t., b. '93, West Bay City, in com.  
 Yuma, prop., 2,194 g. t., b. '93, Cleveland, in com.
- Z. Y. M. C. A., schr., 199 g. t., b. '69, Manitowoc, passed out, '94.**  
 Zapotec, schr., 811 g. t., b. '90, Marine City, in com.  
 Zebra, tug, b. Ferrysburg, Mich., '68.  
 Zella, sty., 13 g. t., b. '86, Rochester, in com.  
 Zenith, tug, 103 g. t., b. '95, Benton Harbor, in com.  
 Zenith City, prop., 3,850 g. t., b. '95, Chicago, in com.  
 Zenobia, schr., lost Point Betsey, '58.  
 Zenobia, stcb., 143 g. t., b. '81, Lockport, in com., formerly C. H. Foote.  
 Zephania, schr., foundered L. Ont., '62.  
 Zephyr, schr., 45 t., first v. b. Cleveland, '08, lost '20, 10 lives lost.  
 Zephyr, schr., 93 t., capsized off Long Point, '69.  
 Zero, 24 g. t., b. '91, West Bay City, in com.  
 Zimmerman, Can. schr., 500 g. t., b. '54, Niagara, burned Niagara, '63.  
 Ziyara, sty., 21 g. t., b. '90, Rome, N. Y., in com.  
 Zouave, schr., b. Conneaut, passed out.  
 Zouave, tug, boiler exploded L. St. Clair, '62, 4 lives lost, rebuilt, passed out.





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